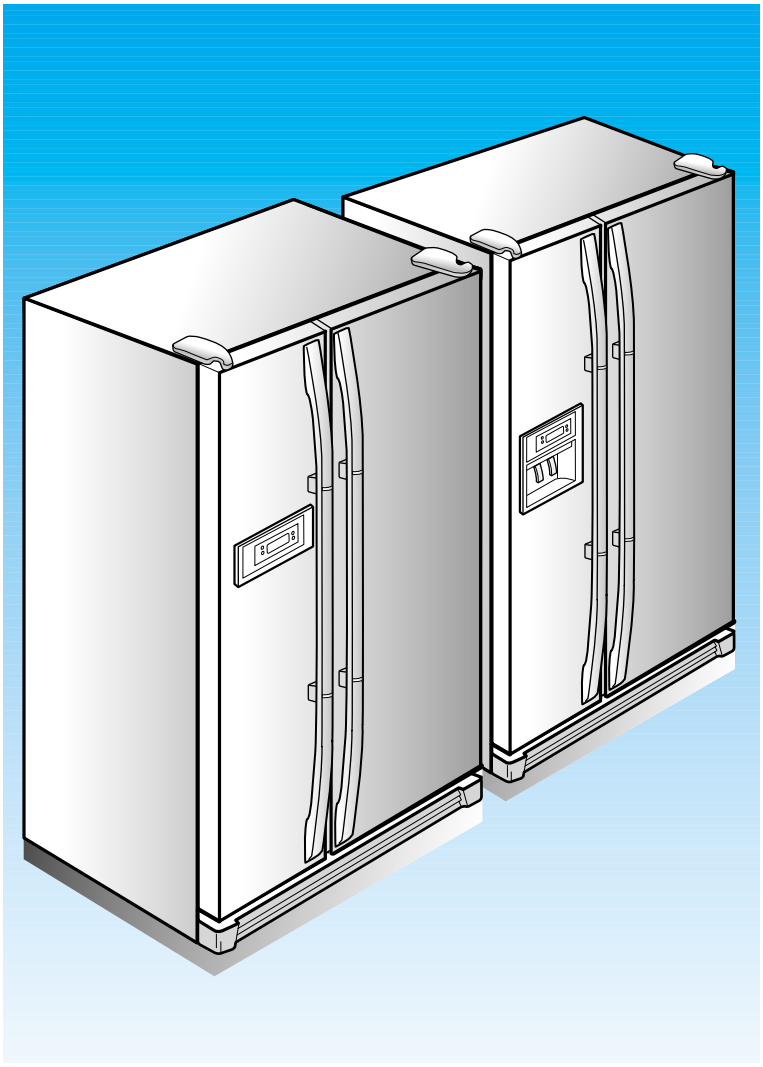
SAMSUNG

SAMSUNG Home Appliance Service

SERVICE GUIDE

For the latest parts information,
please access to our service web site
(http://www.e4buyer.com/refrigerator)

SIDE-BY-SIDE REFRIGERATOR



Model:

RS21
RS23

WARNING

IMPORTANT SAFETY NOTICE

The service guide is for service men with adequate backgrounds of electrical, electronic, and mechanical experience. Any attempt to repair a major appliance may result in personal injury and property damage. The manufacturer or dealer cannot be responsible for the interpretation of this information.

SAMSUNG ELECTRONICS

Technical Service Guide

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1. SAFETY WARNINGS

● Pull the power plug out already for the change or repair of electric parts.
→ Be careful the electric shock.

● When exchanging the parts, use the correct parts.
→ Check the model name, rating voltage, rating current, running temperature symbols.

● When troubleshooting, connect firmly the types of harness.
→ Make not to be separated when some power is imposed.

● Check the traces of water infiltration at the electric parts.
→ If there is a trace of water infiltration, exchange or tape the parts.

● Check the assemble status of parts after troubleshooting.
→ It should be done indiscriminately as before the repair.

● Check the use circumstance of refrigerator.
→ If the refrigerator is installed at the place that is damp or wet, or status of installation is unstable, change the installation place.

● Do earth in case of need.
→ Particularly, Be sure to earth when there is a risk of an electric leakage by humidity or wetness.

● Do not use multi plugs in a plug socket at the same time.
Check the power cord and socket is damaged, pressed, squeezed, or fired.
→ If the plug or plug socket is damaged, repair or exchange that immediately.

● Do not store the foods unstable or bottles in the freezing room.

● Do not repair the refrigerator by user himself.

● Do not store another materials except the foods.
→ Drugs or scientific materials : difficult to keep a precise temperature.
→ The inflammables(alcohol, benzene, ether, LP gas, butane gas etc.): have a risk of explosion.

1. SAFETY WARNINGS

Read all instructions before repairing the product and keep to the instructions in order to prevent danger or property damage.

CAUTION/WARNING SYMBOLS DISPLAYED

Warning	*Indicates that a danger of death or serious injury exists.*
Caution	*Indicates that a risk of personal injury or material damage exists.*

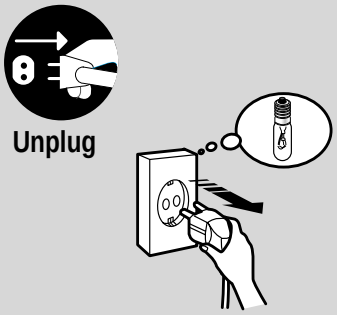
SYMBOLS

means "Prohibition".
means "Do not disassemble".
means "No contact".
means "The things to be followed".
means "Power cord should be unplugged from the consent"
means "Earth to prevent Electric shock".

Warning & Caution

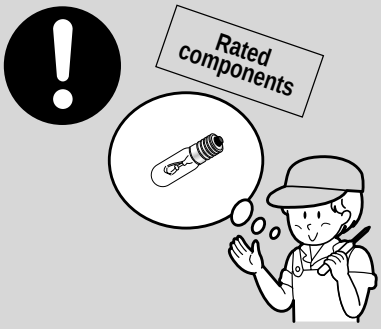
Pull the power plug out to exchange the interior lamp of the refrigerator.

- ***It may cause electric shock.***



Use the rated components on the replacement.

- ***Check the correct model, rated voltage, rated current, operating temperature and so on.***



On repair, make sure that the wires such as harness are bundled tightly.

- ***Bundle tightly wires in order not to be detached by the external force and then not to be wetted.***

On repair, remove completely dust or other things of housing parts, harness parts, and check parts.

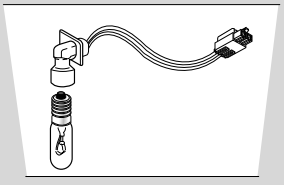
- ***Cleaning may prevent the possible fire by tracking or short.***

After repair, check the assembled state of components.

- ***It must be in the same assembled state when compared with the state before disassembly.***

Check if there is any trace indicating the permeation of water.

- ***If there is that kind of trace, change the related components or do the necessary treatment such as taping using the insulating tape.***



1. SAFETY WARNINGS

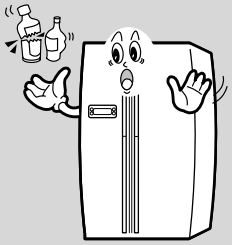
❊ Please ler users know following warnings & cautions in detail.

Warning & Caution

Do not allow users to put bottles or kinds of glass in the freezer.

- *Freezing of the contents may inflict a wound.*

Prohibition



Do not allow users to store narrow and lengthy bottles or foods in a small multi-purpose room.

- *It may hurt you when refrigerator door is opened and closed resulting in falling stuff down.*

Prohibition

Do not allow users to store pharmaceutical products, scientific materials, etc., in the refrigerator.

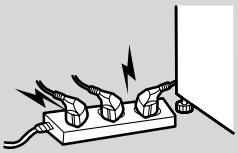
- *The products which temperature control should not be stored in the refrigerator.*

Prohibition

Do not allow users to insert the power plugs for many products at the same time.

- *May cause abnormal generation of heat or fire.*

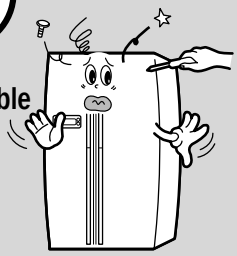
Prohibition



Do not allow users to disassemble, repair or alter.

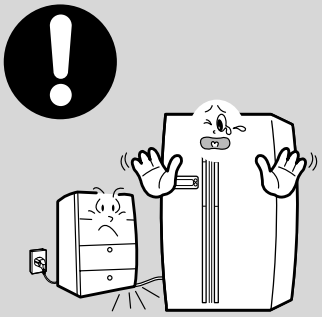
- *It may cause fire or abnormal operation which leads to injury.*

Do not disassemble



Do not allow users to bend the power cord with excessive force or do not have the power cord pressed by heavy article.

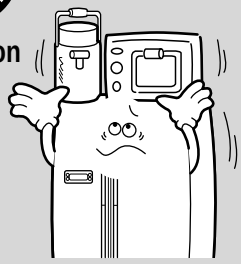
- *May cause fire.*



Do not allow users to store articles on the product.

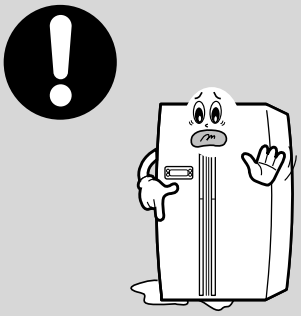
- *Opening or closing the door may cause things to fall down, with may inflict a wound.*

Prohibition



Do not allow users to install the refrigerator in the wet place or the place which water splashes.

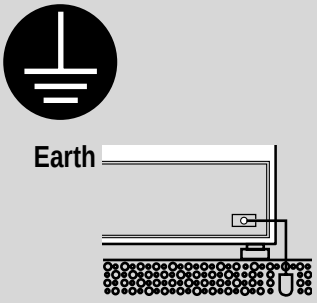
- *Deterioration of insulation of electric parts may cause electric shock or fire.*



Make sure of the earth.

- *If earthing is not done, it will cause breakdown and electric shock.*

Earth



2. INSTRUCTION

- **SAMSUNG side by side refrigerator has the following characteristics.**

Twin Cooling System
• The refrigerator and the freezer have two evapora
tors. Given this independent system, the freezer and the refrigerator are cooled individually as required and are, therefore, more efficient. Food odor from the refrigerator does not affect food in the freezer due to separate of air flow circulation.

Multi-Flow System
• Cool air circulates through multiple vents on every
shelf level. This provides even distribution of cooling inside cabinets to keep your food fresh longer.

Door Alarm
• A beeper reminds you if the door is left open.

High humidity for fresher food
• You can keep food, fruit and vegetables fresh for longer because your refrigerator supplies highly humidified cold air. This can be up to four or five times more effective than a normal refrigerator.

Energy-saving fridge/freezer
• Power consumption is kept to a minimum by distributing cool air separately to the refrigerator and freezer.

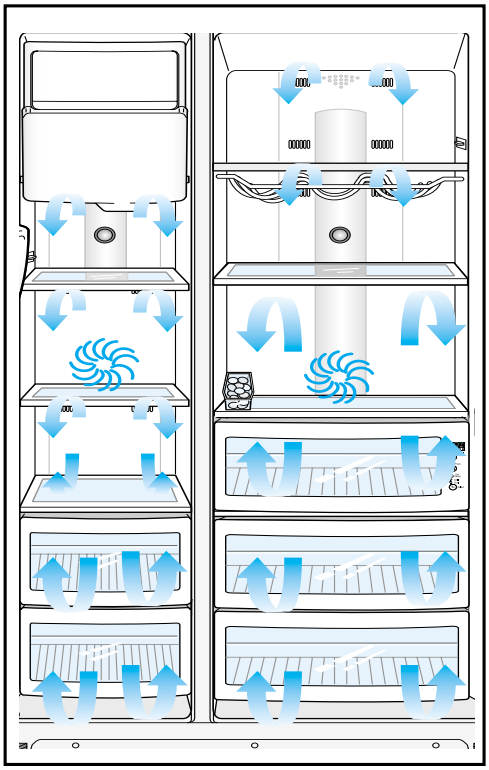
Faster cooling times
• The power freeze function allow you to freeze food more quickly.

Abundant supply of ice and cold water
• The ice and water dispenser provides ice and cold water at any time.

Beverage Station (optional)
• You do not have to open the main door to access frequently used food in the extra refrigerating compartment. This saves time and money.

Deodorizer (optional)
• Reusable deodorizer keeps the refrigerator air fresh and odor free.

CoolSelect Zone™Drawer (optional)
• User can select Quick Cool, Thaw and Select buttons for quickly chill, thaw and cools items. Select Soft Freeze, Cool or Chill to control the temperature of drawer.



NOTE

This operation instruction covers various models.
The characteristics of your appliance may differ slightly from those described in this manual.

3. INSTALLATION

1) To protect refrigerator in movement
Use padded hand truck as shown. If entrance width is less than 30 ″, remove doors prior to installation and reattach doors according to procedure below.

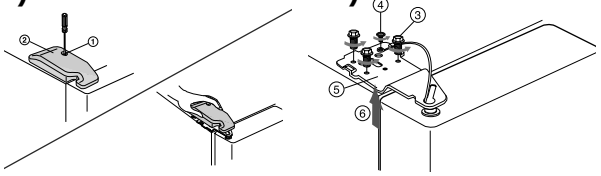
2) Remove all protective tape and pad in refrigerators.
Please adjust the clearance between the doors.

3) Set the temperature control to the temperature and wait for an hour.
The refrigerator should get slightly chilled and the motor runs smoothly.

4) Once the refrigerator temperature is sufficiently cool
You can store food in the refrigerator. After starting the refrigerator, it takes a few hours to reach the appropriate temperature.

• Disassemble the refrigerator

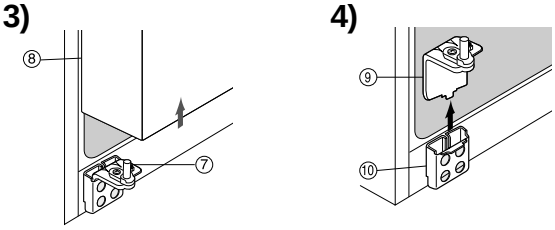
1) **2)**



1) With the door closed, disassemble screw(①) by using (+) screw driver and then disassemble the upper hinge cover(②).

2) Disassemble bolts (③) and screws (④) to the counter-clockwise by using a tool, and take off the upper hinge (⑤) along the arrow (⑥). Take care when you disassemble the door to ensure that it does not fall on you.

3) **4)**

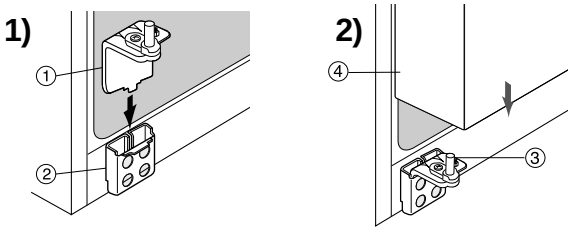


3) Disassemble the door from the lower hinge (⑦) by lifting the door (⑧).

4) Disassemble the lower hinge (⑨) from the bracket lower hinge (⑩) by lifting the lower hinge (⑨) in the direction of the arrow.

• Assemble the refrigerator

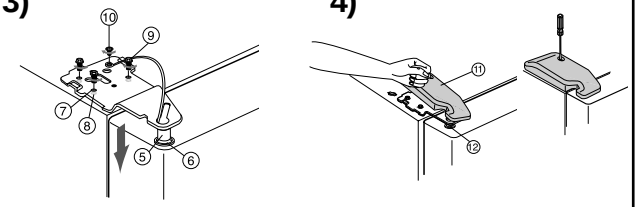
1) **2)**



1) Insert the lower hinge (①) in the bracket lower hinge (②).

2) Assemble the door (④) in the lower hinge (③).

3) **4)**



3) Insert the upper hinge shaft (⑤) into the hole (⑥). After leveling between the upper hinge hole (⑦) and the hole of the refrigerator (⑧), assemble bolts (⑨) and screws (⑩) to the clockwise by using a tool.

4) Put the front part of the upper hinge cover (⑪) on the front part of the upper hinge (⑫) and assemble, starting with the front part of the upper hinge cover. Assemble the screw to the clock wise by using a tool.

4. NOMENCLATURE

R S 21 F C SW

COLOR

NOMAL SW- SNOW WHITE(EMBO)	MS- SILVER MIST (THAI)
SV- SNOW WHITE (VCM)	DB- DAISY BEIGE
RS- REAL STAINLESS	NS- NOBLE STAINLESS
TRIM KIT : SG- SILVER GLASS	LB- ILLUMANATE BLUE
MR- MIRROR	TR- TROPICAL RED
AL- ALUMINUM	NK- NATURE KHAKI
NC- NATURAL CHERRY	DW- DARK WALNUT
BG- BLACK GLASS	

HANDLE TYPE

C : SKI BAR TYPE	D : CLASSIC BAR
S : CLASSIC(Handle Assembled)	K : SKI BAR(Handle Assembled)
L : LONG BAR -TRIM KIT	G : LONG BAR -REAL STAINLESS

Function K : DISPENSER & HOME BAR with CoolSelect zone™
J : DISPENSER with CoolSelect zone
F : DISPENSER & HOME BAR
D : DISPENSER
N : BASIC MODEL

VOLUME CAPACITY: 21,23 (cu.ft)

CATEGORY
S : SBS REFRIGERATOR

BRAND : R-SAMSUNG REFRIGERATOR

Label Location

5. SPECIFICATIONS

5-1. Model Specification

Item		Specification					
Model(RS21)		Basic	Basic & H/B	Dispenser	Dispenser & H/B	Dispenser with CoolSelectZone™	Dispenser & H/B CoolSelectZone™
Net Capacity	Total	557ℓ		532ℓ		520ℓ	
	Refrigerator	346ℓ		346ℓ		334ℓ	
	Freezer	211ℓ		186ℓ		186ℓ	
Net dimension(W×D×H)		908mm × 719mm × 1760mm					
Rated Frequency and Frequency		230 ~ 240V/50Hz					
Motor Rated Consumption Power		155W		160W			
Electric Heater Rated Consumption Power		401W	411W	413W	423W	413W	423W
Kind of Refrigerator		Indirect Cooling Method Refrigerator					
Refrigerant		R600a					
Refrigerant Input Amount		88g					
Freezer Performance		**** (4-STAR)					
Product Weight		111Kg	111Kg	117Kg	117Kg	120Kg	120Kg

Item		Specification					
Model(RS23)		Basic	Basic & H/B	Dispenser	Dispenser & H/B	Dispenser with CoolSelectZone™	Dispenser & H/B CoolSelectZone™
Net Capacity	Total	594ℓ		565ℓ		553ℓ	
	Refrigerator	369ℓ		369ℓ		357ℓ	
	Freezer	225ℓ		196ℓ		196ℓ	
Net dimension(W×D×H)		908mm × 754mm × 1760mm					
Rated Frequency and Frequency		230 ~ 240V/50Hz					
Motor Rated Consumption Power		155W		160W			
Electric Heater Rated Consumption Power		401W	411W	413W	423W	413W	423W
Kind of Refrigerator		Indirect Cooling Method Refrigerator					
Refrigerant		R600a					
Refrigerant Input Amount		88g					
Freezer Performance		**** (4-STAR)					
Product Weight		121Kg	121Kg	127Kg	127Kg	130Kg	130Kg

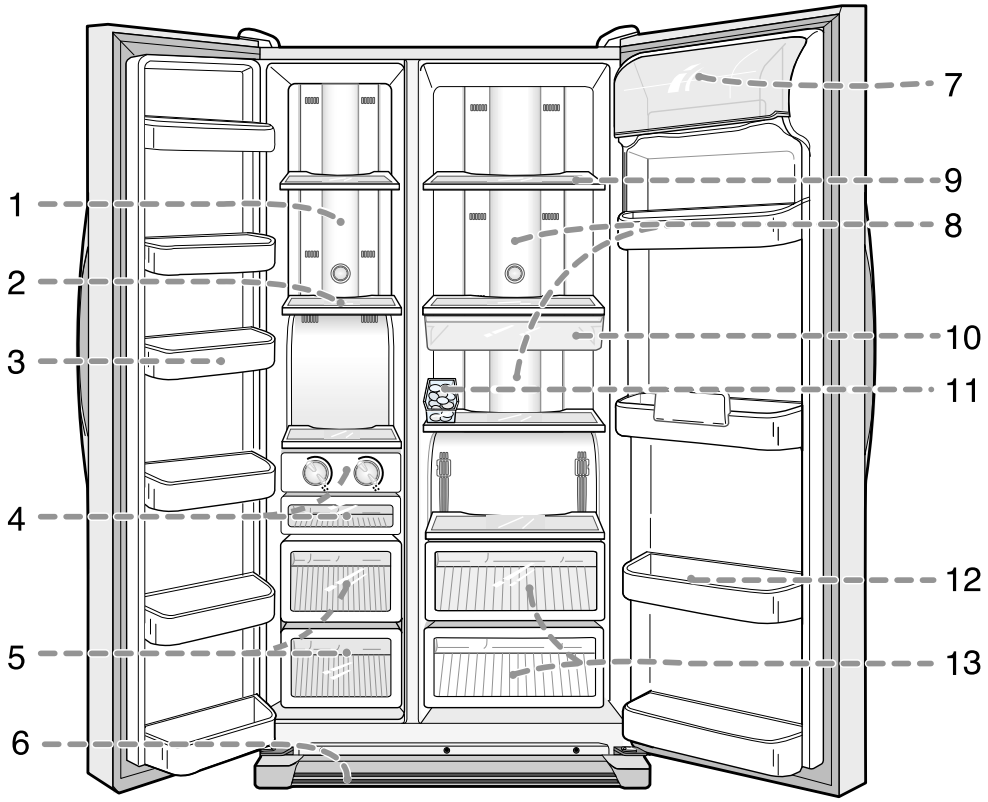
5-2. Electric Parts Specification

Items				Specification	
Models					
Freezing Capacity				**** (4 STAR)	
Components for Freezer	Compressor		Model	MK4A5Q-RIU	
			Starting type	R.S.C.R	
			Oil Charge	FREOL α - 15 (ESTER)	
	Evaporator		Freezer	SPLIT FIN TYPE	
			Refrigerator	SPLIT FIN TYPE	
	Condenser			Forced and natural convection type	
	Dryer			Molecular sieve XH-9	
	Capillary tube			0.82 × 3000, 5.5 Kg/cm^2	
	Refrigerant			R600a	
Room Temperature Sensor Components	Freezer	Model	Temperature Selection	ON(℃)	OFF(℃)
		THERMISTOR (F-SENSOR) 502AT	-25℃	-24.0	-26.0
			-20℃	-19.0	-21.0
			-14℃	-13.0	-15.0
	Refrigerator	Model	Temperature Selection	ON(℃)	OFF(℃)
		THERMISTOR (R-SENSOR) 502AT	1℃	2.0	-1.0
			3℃	4.0	2.0
			7℃	8.0	6.0
Defrost Related Components	Defrost Cycle	First Defrost Cycle (Concurrent defrost of F and R)		4 hr ± 10 min	
		Defrost Cycle(FRE)		12 ~ 24 hr (vary according to the conditions used)	
		Defrost Cycle(REF)		6 ~ 12 hr (vary according to the conditions used)	
		Pause time		10 ± 2 min	
	Defrost Sensor	F Defrost-Sensor	Model	THERMISTOR (502AT)	
			SPEC	5.0㏀ at 25℃	
		R Defrost-Sensor	Model	THERMISTOR (502AT)	
			SPEC	5.0㏀ at 25℃	
	Thermal-Fuse		Rated	AC 250V 10A	
			Operating temperature	77 (+0℃/-5℃)	

Items			Specifications		
Model			Basic	Dispenser	Home Bar
Electric Components	Defrost-Heater(FRE)	Conducting at F Defrosting	215 W		
	Defrost-Heater(REF)	Conducting at R Defrosting	110 W		
	DRAIN Heater(FRE)	Conducting at F Defrosting	41 W		
	DRAIN Heater(REF)	Conducting at R Defrosting	35 W		
	DISPENSER Heater	Interlock with F-FAN	-	5W	5W
	HOME-BAR Heater	Interlock with COMP	-	-	10W
	WATER PIPE Heater	-	-	7W	-
	Thermal-Fuse for preventing overheating of Freezer Defrost-Heater		AC 250V 10A 77 (+0℃/-5℃)		
	Thermal-Fuse for preventing overheating of Refrigerator Defrost-Heater				
	Condenser for COMP (Package type)	Running	350VAC-5μF		
		Starting	-		
	Starting-Relay	Model	J531Q35E330M385-2		
		Operation	33Ω ±20%		
	Over-load Relay	Model	4TM265RFBYY-53		
		Temp. ON	130 ±5℃		
		Temp. OFF	61 ±9℃		
	Rated Voltage		230V/50,60Hz		
	MOTOR-BLDC(FRE)		DC12V/DREP302ø CA		
	MOTOR-BLDC(REF)		DC12V/DREP302ø CA		
	MOTOR-BLDC (Circuit)		DC12V/DRCP302ø LA		
	Lamp(FRE)		AC240V/30W		
	Lamp(REF)		AC240V/30W×2		
	Door Switch		AC250V 0.5A×2		
	Door Switch (HOME-BAR)		AC250V 0.5A		
	Power cord		AC250V 12A		
	Earth Screw		BSBN (BRASS SCREW)		

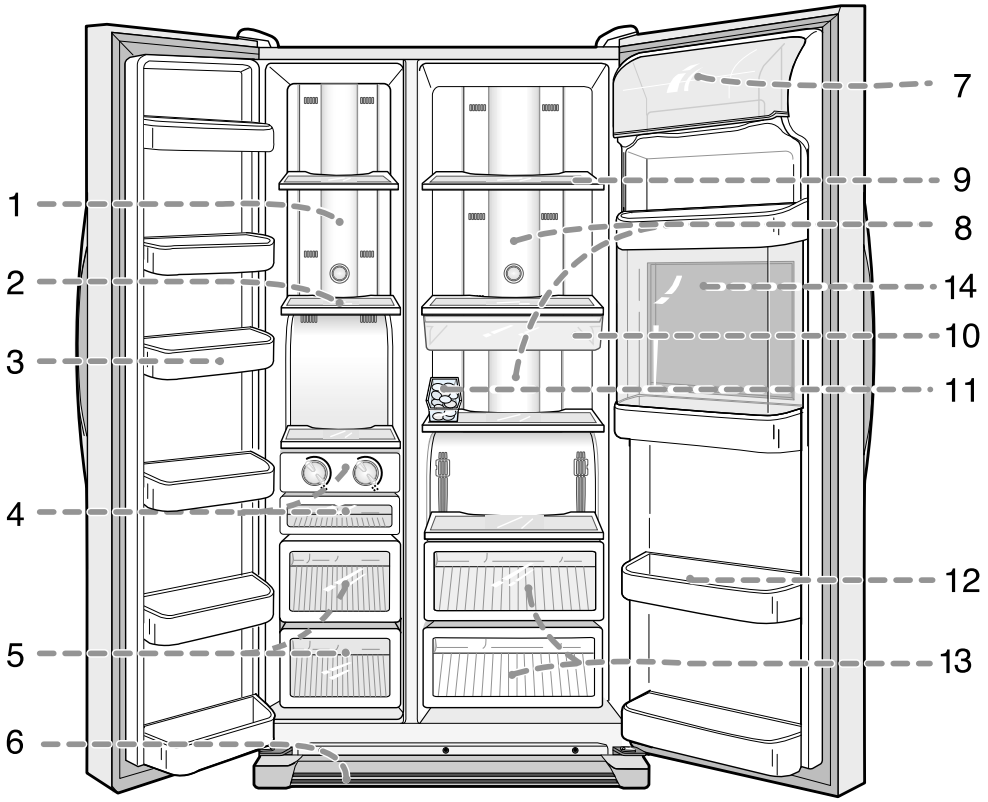
6. INTERIOR VIEWS AND DIMENSIONS

6-1. The Name of Each Part(Basic)



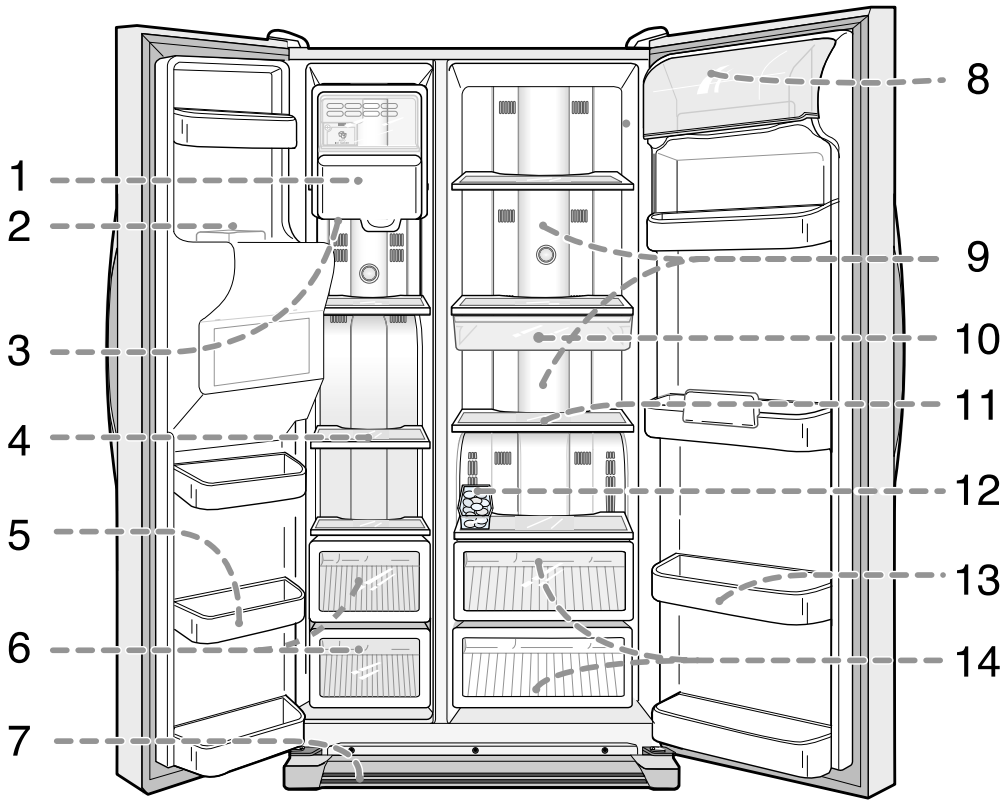
FREEZER	*REFRIGERATOR*
① LAMP-INCANDESCENT	⑦ COVER-GUARD
② SHELF	⑧ LAMP-INCANDESCENT
③ GUARD	⑨ SHELF
④ TRAY-ICE & CASE ICE	⑩ TRAY-CHILLED ROOM
⑤ CASE-BASKET	⑪ TRAY-EGG
⑥ COVER-LEG, FRONT	⑫ GUARD
	⑬ CASE-VEGETABLE

6-2. Part Name (HOME BAR)



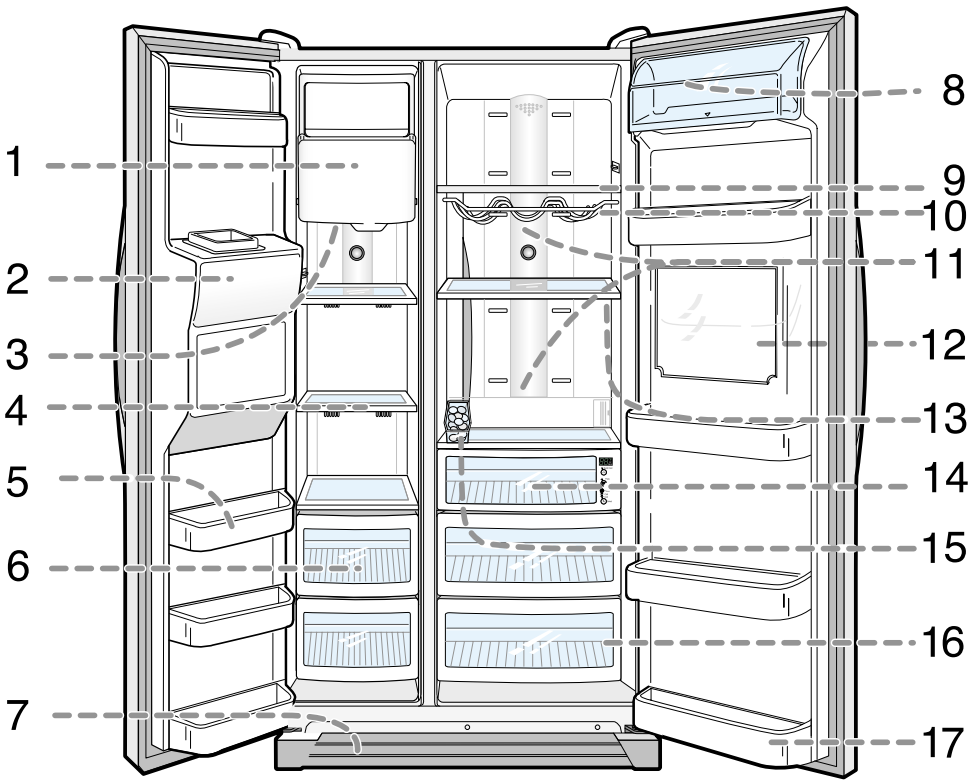
FREEZER	REFRIGERATOR
① LAMP-INCANDESCENT	⑦ COVER-GUARD
② SHELF	⑧ LAMP-INCANDESCENT
③ GUARD	⑨ SHELF
④ TRAY-ICE & CASE ICE	⑩ TRAY-CHILLED ROOM
⑤ CASE-BASKET	⑪ TRAY-EGG
⑥ COVER-LEG, FRONT	⑫ GUARD
	⑬ CASE-VEGETABLE
	⑭ HOME-BAR

6-3. Part Name (DISPENSER)



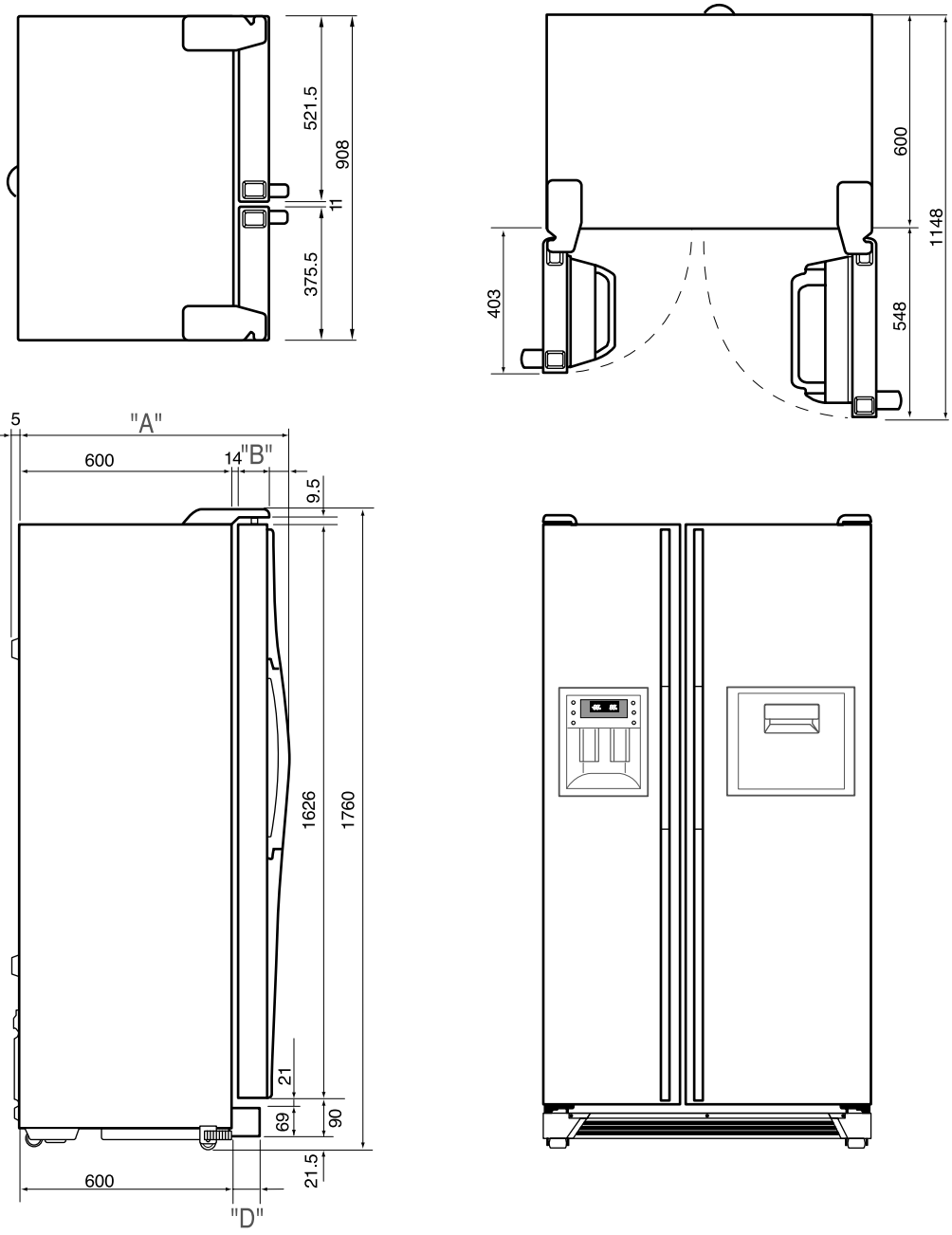
FREEZER	*REFRIGERATOR*
① ICE-MAKER	⑧ COVER-GUARD
② ICE-CHUTE	⑨ LAMP-INCANDESCENT
③ LAMP-INCANDESCENT	⑩ TRAY-CHILLED ROOM
④ SHELF	⑪ SHELF
⑤ GUARD	⑫ TRAY-EGG
⑥ CASE-BASKET	⑬ GUARD
⑦ COVER-LEG, FRONT	⑭ CASE-VEGETABLE

6-4. Part Name (DISPENSER / HOME BAR / CoolSelect Zone™)



FREEZER	*REFRIGERATOR*
① ICE-MAKER	⑧ COVER-GUARD
② ICE-CHUTE	⑨ SHELF
③ LAMP	⑩ SHELF-WINE
④ SHELF	⑪ LAMP
⑤ GUARD	⑫ HOME BAR
⑥ CASE-BASKET	⑬ SHELF
⑦ COVER-LEG, FRONT	⑭ CoolSelect Zone™
	⑮ TRAY EGG
	⑯ CASE-VEGETABLE
	⑰ GUARD

6-5. Dimensions of Unit

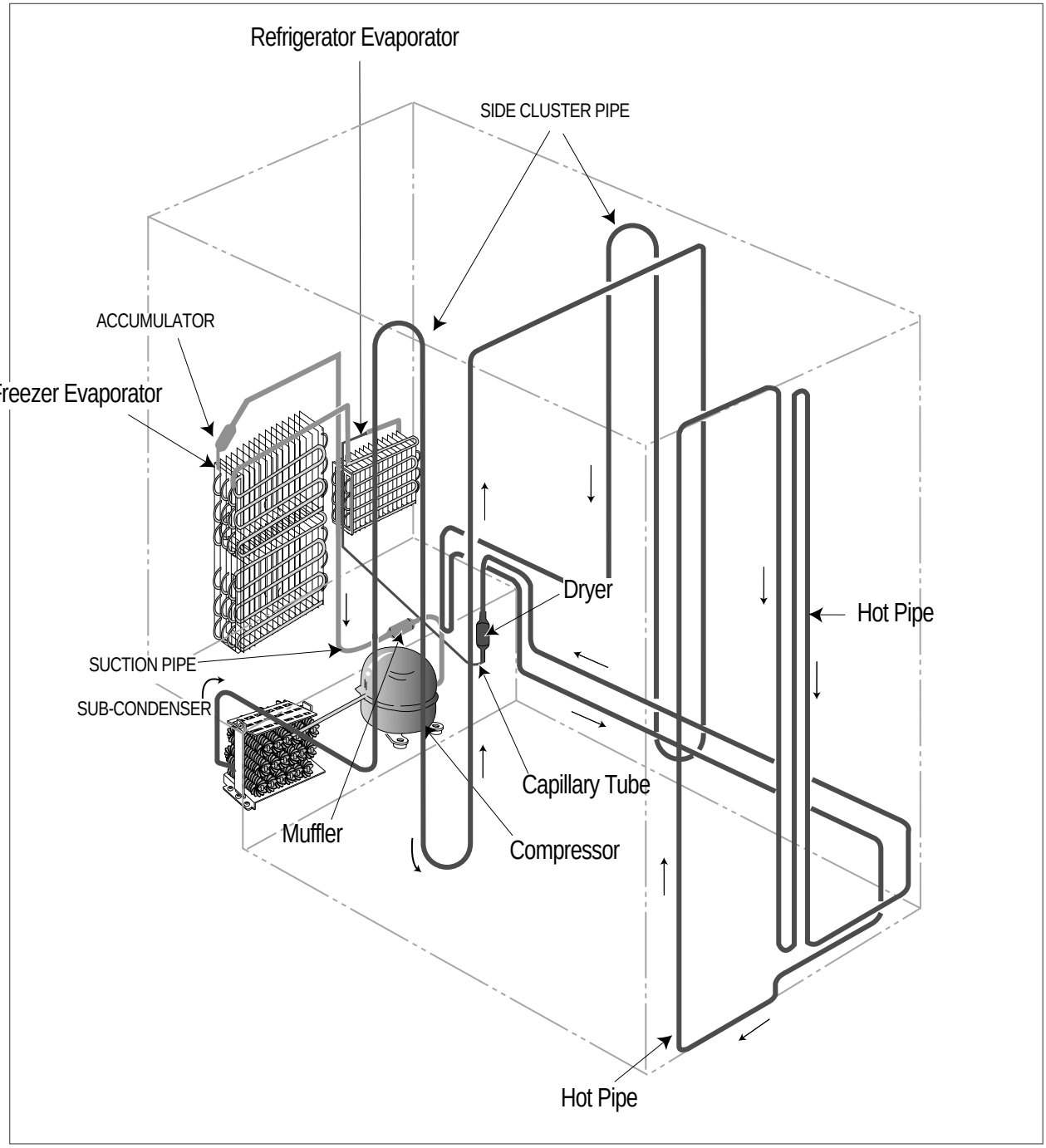


MODEL	“A”	“B”
RS21	714(719)	50
RS23	754(759)	85

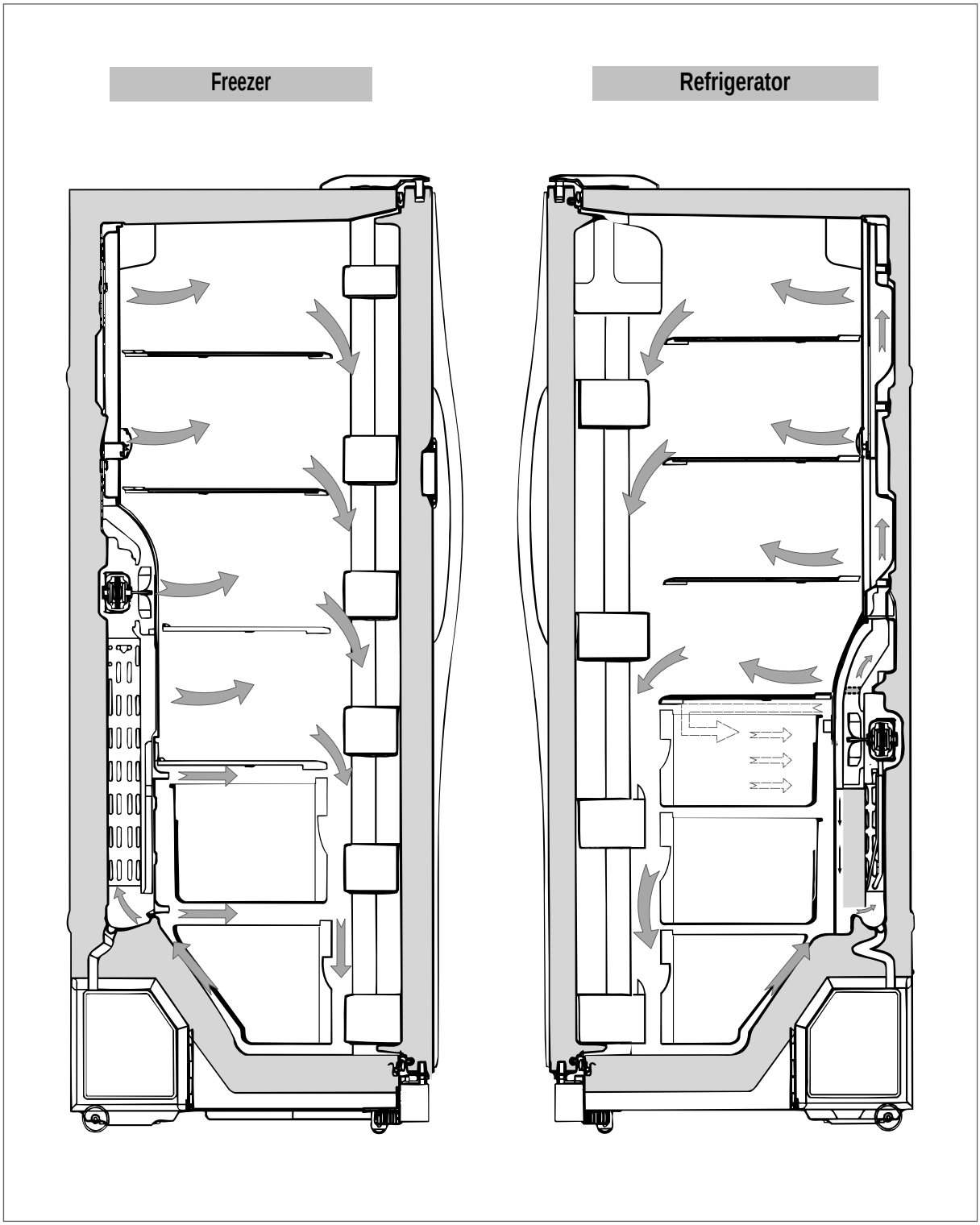
7. FREEZING CYCLE AND COOL AIR CIRCULATION ROUTE

7-1. Freezing Cycle

Compressor → Sub-condenser → Side Cluster Pipe(FRE) → Side Cluster Pipe(REF) → Hot Pipe → Dryer → Capillary Tube → Refrigerator Evaporator → Freezer Evaporator→ Suction Pipe → Compressor



7-2. Cooling Air Circulation

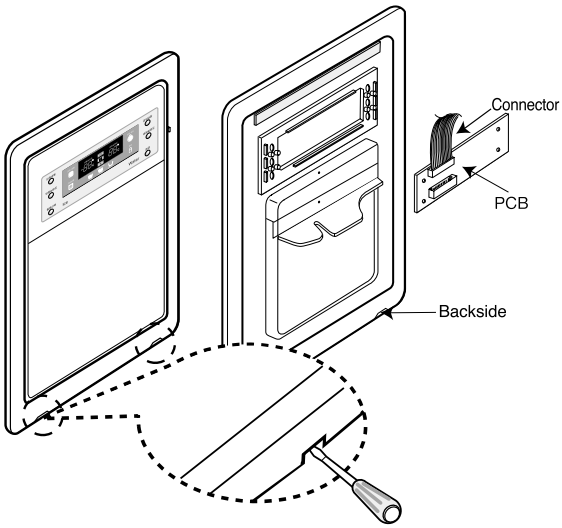


8. MECHANICAL DISASSEMBLY

8-1. Freezer Disassembly

Control Panel

1. Insert a flat-blade screwdriver on the slot as shown and unlock the tabs.
2. Disconnect the wire connector in the back of control panel

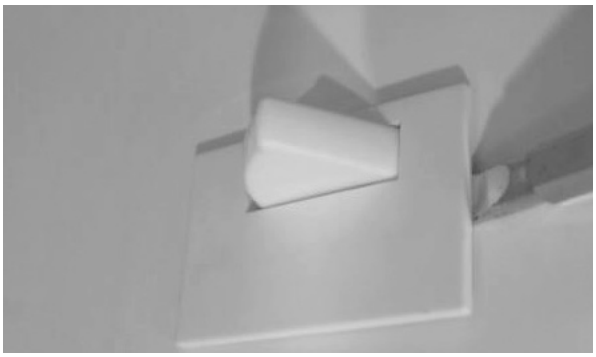


Door Gasket

The door gasket is set into groove on door liner
1.Open the door.
2.Grasp the gasket and pull it out from the door liner.

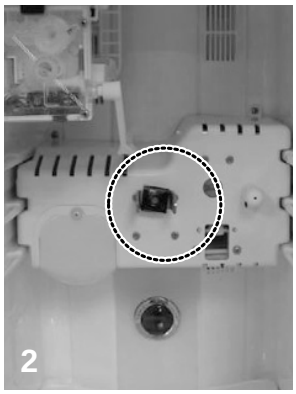
Light SWITCHES

The unit have two light switches on the side wall of freezer & refrigerator.
1.Use a small flat-blade screw driver to unlock the hook and pull the switch out until the wire connector is exposed.



Lights (Dispenser MODEL)

The light of freezer is located at lower side of Auger motor case.
1.Remove ice bucket.
2.Remove the lamp cover by releasing the screw.
3.Change the bulb(rated component)



Lights (Basic MODEL)

Refer to Refrigerator Disassembly
Disassemble/assemble method is same as the light in refrigerator

Door Guard in FREEZER

Lift the guard up and pull it out from door liner

Shelves

1.Pull the shelf out as far as it goes.
2.Lift it up and pull it out from the unit.

Drawers in FREEZER

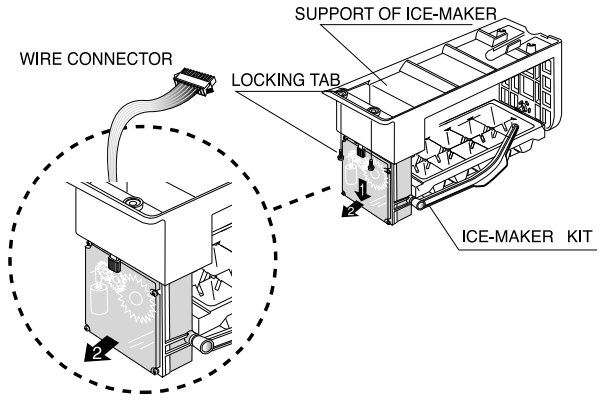
The drawers are located at bottom side of freezer.
1.Pull the drawer out as far as it goes.
2.Lift it up slightly and pull it out from the unit.

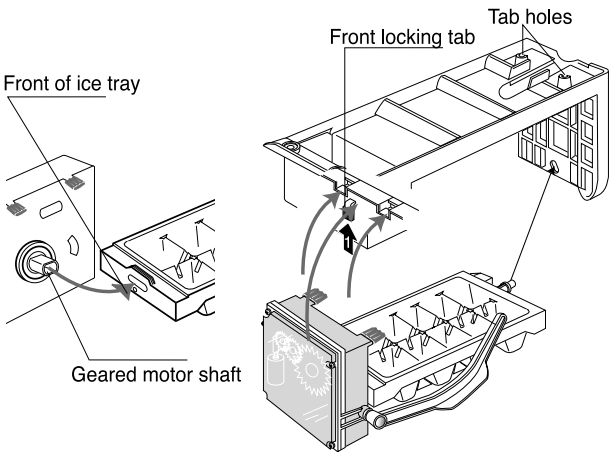
Ice Bucket

The ice Bucket is located in the upper portion of the freezer. this assembly stores ice made by the ice maker and dispenses ice cubes.
1.Lift the ice bucket up
2.Slide it out from the unit.

Ice Maker

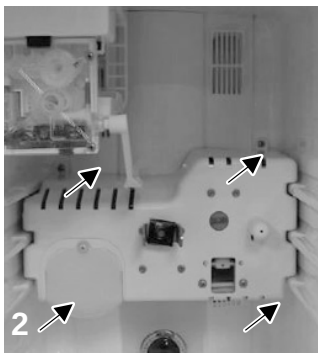
1.Pull the shelf out as far as it goes.
2.Lift it up and pull it out from the unit.





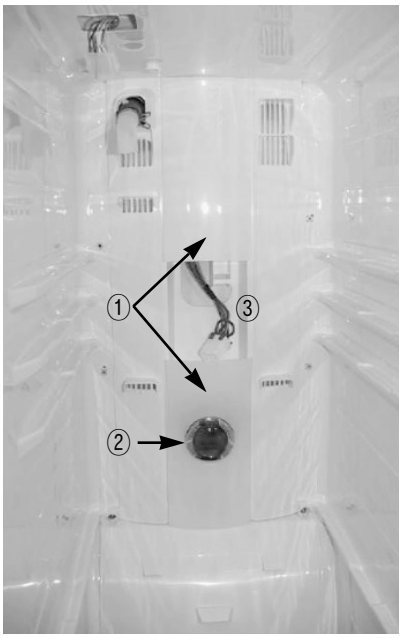
Auger Motor & case

1.Remove ice bucket.
2.Remove the screws(4) that secured the case
3.Slide it out from the unit. then, you can disassemble the auger motor from the back of the case.



Cover Multi Freezer Assembly

1. Remove ice bucket and the Ice maker.
2. Remove the covers(①) and sensor covers(②)
3. Remove the screws(3pcs) that secured the assembly.
4. Disconnect the wire connector(③) and the connecter for Sensor (it can be possible to disconnect this connector after removing the sensor cover)



Cover Evaporator Assembly

1. Remove the assembly of cover multi freezer
2. Pull the assembly out toward front by holding upper side of the assembly up to see the connector.
3. Disconnect the wire connector and take the assembly out.

Evaporator Fan motor

Evaporator Fan Motor is located in the back side of the cover evaporator assembly.

1. Remove the screws(4pcs) that secured the Fan motor assembly on the 4 corner.
2. Remove the motor case by removing another screw and take out the motor.

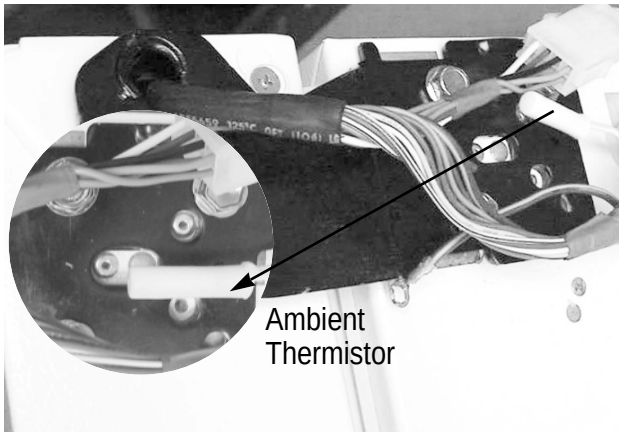
Evaporator

Evaporator is located in the bottom of freezer to produce cold air driven across evaporator coils.

1. Remove ice bucket and the Ice maker.
2. Remove the cover multi freezer assembly.
3. Remove the cover evaporator assembly.
4. Disconnect the wire connectors.
5. Desolder the inlet and outlet tubes.
6. Take the steps in opposite to seal the system as mentioned above.

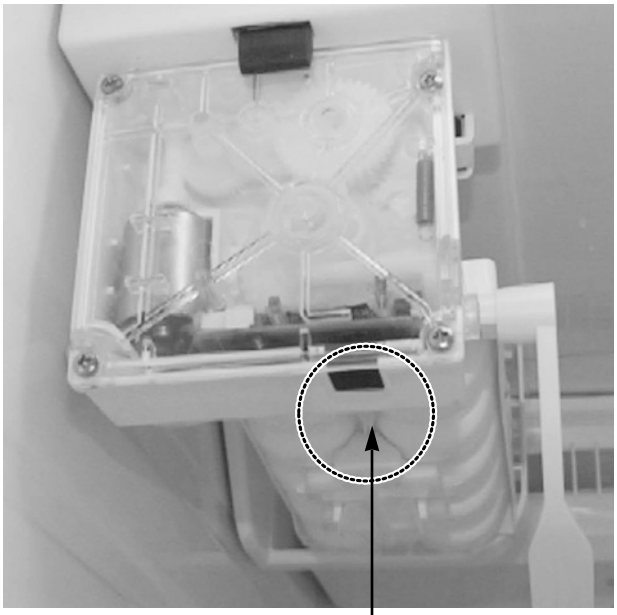
Ambient Thermistor

The thermistor is located at inside the upper hinge cover it sends temperature signal to the micro-processor.



Ice Maker Thermistor

Ice Maker Thermistor is located bottom of ice tray. it sends temperature signal to the micro processor.



8-2. Refrigerator Disassembly

Beverage Station

The beverage station allows access to the refrigerator with out opening the refrigerator door.

1. Open the door beverage station.
2. With a small flat-blade screwdriver, take out the rubber cap, then put it into the small hole and push the button inside.
3. Take off the door.

Door Gasket

The door gasket is set into groove on door liner

1. Open the door.
2. Grasp the gasket and pull it out from the door liner.

Drawers in Refrigerator

The drawers are located at bottom side of refrigerator.

1. Pull the drawer out as far as it goes.
2. Lift it up slightly and pull it out from the unit.

Lights

The light of refrigerator are located inside of cover multi ref. assembly.

1.Remove the lamp cover by releasing the screw.
2.Change the bulb(rated component)

Door Guard in REFRIGERATOR

Lift the guard up and pull it out from door liner

Shelves

1. Pull the shelf out as far as it goes.
2. Lift it up and pull it out from the unit.

Water filter

The water filter is located in the upper left hand corner of the refrigerator. this filter filters water for ice maker & water dispenser.

1. Turn the water filter 1/2 turn counterclockwise and pull it down.
2. To install the filter align the indication mark(unlock position) and push it up while turning 1/2 turn clockwise up to the lock position is aligned. Do not over tighten.

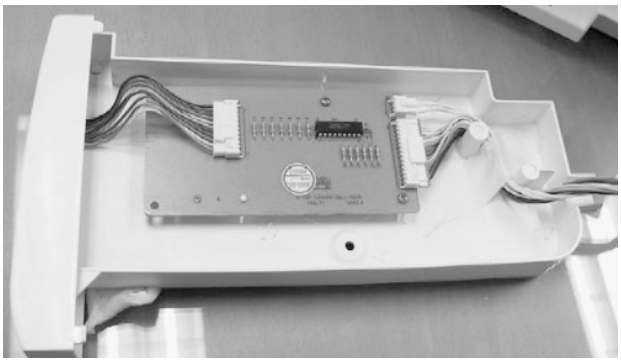
CoolSelect zone™(Optional)

1. Remove all shelves.
2. Remove two screws that secured.

3. Disconnect the wire connector.

4. Remove the screw for disassembling the PBA board for controlling CoolSelect zone™

5.Disassemble the PBA board.



Cover Multi REF.

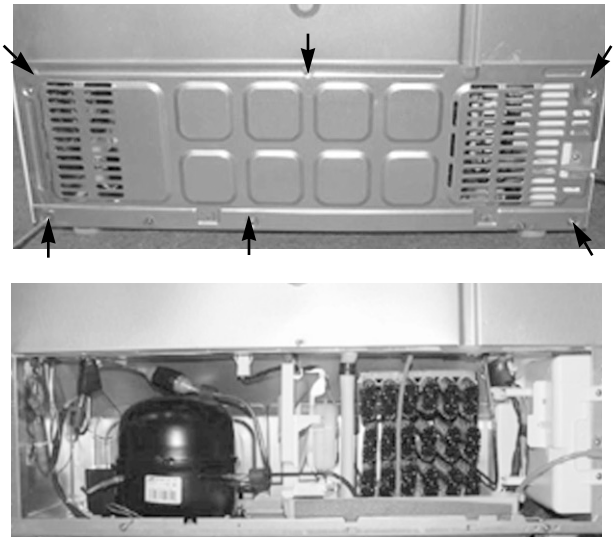
1. Remove the screw and cover lamp.
   then, remove the sensor cover.

2. Remove the screw and disconnect the
   wire connector, then pull it out.

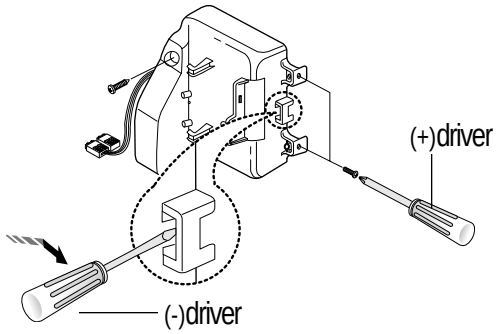
8-3. Machine compartment

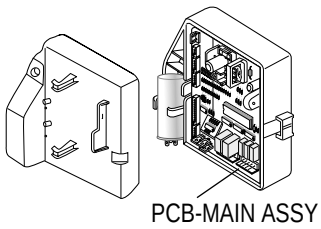
Machine Compartment & Electric Box

1) Disconnect the compressor cover by releasing the screws(6EA).



2) Remove the screws which are securing the electric box. and press the tap in electric box coverto take outbyusing a flat-blade screw driver.





Condenser Fan

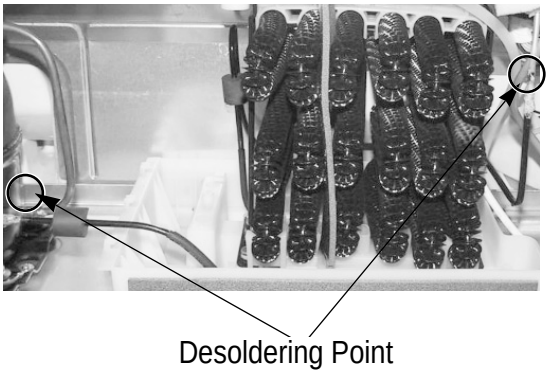
The condenser fan is located in the middle of machine compartment it cools down the sub-condenser and compressor.

1) Disconnect the wire connector of Fan.
2) Remove the screws (1 EA) on the drain water tray.
3)Take out the condenser fan assembly.

Sub-condenser

The sub-condenser is located in the machine compartment.

1) Desolder the compressor discharge & the outlet of sub-condensor.
2) Take out the sub condenser.



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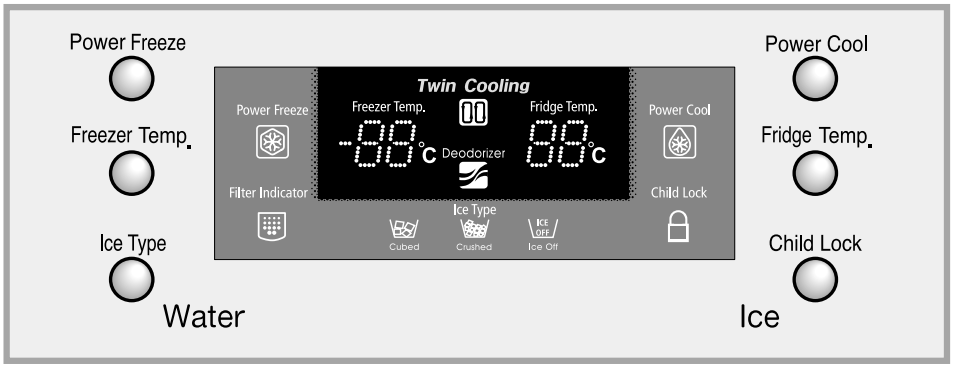
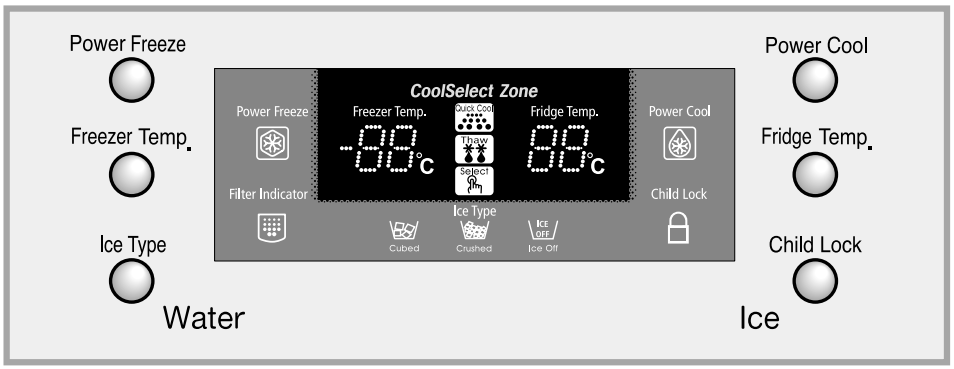
9. Operation Function

9-1) Digital Panel



for **Dispense Model**



for **Cool Select Zone™**

9-2) Temperature Control Function

When the system power is initally engaged, the default set temperature are -20˚C for the freezer and 3˚C for the set refrigerator, respectively. The numbers shown on the digital display panel stand for the actual compartments temperatures. When the compartment temperatures go down, so do the numbers on the display panel, and finally they reach the set temperatures. Once the system is stabilized, the display temperatures are the set temperature.

1) Freezer Temperature Control.
   To select a set temperature, press the Freezer Temp. button. The display shows the set temperature from -14˚C to -25˚C in sequence.
2) Refrigerator Temperature Control.
   To select a set temperature, press the Fridge Temp. button. The display shown the set temperature from 1˚C to 7˚C in sequence.

note) Because of the temperature sensor sensivity, the refrigerator can be under and/or over cooled when the air flow is blocked by stored foods. (Temperature range of the sensor : -9˚C～30˚C)
In the event of a power failure, if the freezer temperature is maintained lower than 5˚C, the last selected set temperature and functions memorized in EEPROM will be restored when the power is on.

9-3) Power Freeze and Power Cool Functions

- Select the Power Freeze or Power Cool buttons separately.
- These buttons are toggled ON and OFF and the indicators as well.
- Although you select Power Freeze or Power Cool, the set temperatures in the freezer and refrigerator are not changed.
- The set temperatures for the compartments can be changed while these functions are in use.

1) Power Freeze function

1-1) When you press the Power Freeze button, the LED indicator lights right away, but there is 10 seconds lag time to an actual operation. When this button is pressed again, the Power Freeze function stops and the indicator is off immediately .

1-2) If you select Power Freeze, both the compressor and the freezer fan run for 10 hours continuously.

note) When the Power Freeze is selected, it enables maximum ice maker output. The ice making interval is reduced from 90 mins to 55 mins (55 mins after the water delivery, if the ice temperature is maintained lower than -7℃, the ice tray will be twisted). When the ice bucket is full before 10 hours of operation, Power Freeze is automatically terminated.

1-3) During Power Freeze, the freezer retains the current settings.

1-4) When Power Freeze expires, the indicator goes off and the freezer set temperature will be restored.

2) Power Cool function

2-1) Power Cool operation and the indicator work exactly same as the Power Freeze function.

2-2) When Power Cool is selected, COMP and R-FAN operate continuosly until the refrigerator reaches -4℃. This function will be terminated after 2 ½ hr running.

3) When you select Power Freeze and Power Cool together

Each function works at the same time. The COMP and F-FAN run continuously and the R-FAN runs until -4℃ in the refrigerator.

4) Initial Power-On

4-1) The freezer and the refrigerator temperatures are higher than -10℃and 10℃ espectively if, respectively. If Power Freeze is selected, the R-FAN will be off. If Power Cool is selected, the F-FAN will be off.

4-2) When both functions are selected, there is no benefit of fast cooling for each compartment.

9-4) Child Lock Function

- When the child lock button is pressed for 3 seconds, the child lock indicator is on with an audible tone. when it is locked, all keys can not be modified except the Ice type button. This function will prevent accidental setting that may be caused by children or pets. To unlock the setting functions, press this button for 3 seconds again. Also, this button has another function. When this button is pressed for 3 seconds (lock indication lamp turn on), the heater for sweat control is off at a same time. If sweat is appeared around the cover dispenser or beverage station, press this button for 3 seconds again. then, the light will turn off and the sweat control function will be performed. and all keys will be unlocked at a same time.

9-5) Ice & Water Dispenser Function

- Among several ice-maker functions, the ice extraction function is performed by mechanical system. Only the relay control for a cubed-ice dispensing and the SSR control for the ice chute door are performed electronically.

1) Select Cubed/Crushed/Ice-off function
1-1) The Ice Type button selects Cubed/Crushed/Ice-off options in sequence.
1-2) A default setting is Cubed option.
1-3) If Cubed ice is selected, the Crushed ice bypass solenoid and the geared motor will allow Cubed ice to by pass the ice Crusher.
1-4) If Ice-off is selected, the ice maker will stop working. This option will be terminated when Cubed and Crushed options are selected.

Note) When the Ice-off indicator is on and the remained ice is in tray, only Cubed ice will be dispensed from the ice bucket.

1-5) The ice chute door must be open for 5 seconds after dispensing ceases. After this 5 seconds delay, SSR will be controlled to shut the ice chute door.

Note) Do not force to close the ice chute door. Try to dispense some more ice again to work it automatically.

2) Water Dispenser function
2-1) To dispense water, depress the water dispenser lever located in the dispenser recess.
2-2) When the lever is depressed, the water solenoid valve located in the machine compartment is open to flow water.
2-3) There is no electronic control function for this option.

9-6) C-Fan Motor Delay Function of the Machine Compartment

- According to the ambient temperature, the condenser fan located in the machine compartment is operated with different modes.

	Ranges of ambient temp.	Operation
C-FAN Delay function	Above 19˚C	C-FAN is ON as soon as the compressor is on.
	16˚C ~ 18˚C	C-FAN is ON with 5 minutes delay from the compressor on.
	Below 15˚C	C-FAN is OFF regardless of the compressor operation.

9-7) CoolSelect Zone™ Function (RS21K/J, RS23K/J)

- To select this function, open the refrigerator door and press the button on the control panel of CoolSelect Zone ™ drawer.
- When the CoolSelect Zone™ function is selected, the damper inside fan ductwork is open. So the refrigerator cooling is performed first, then the damper is closed to control the CoolSelect Zone™ temperature.

1) Select function

1-1) Using Select button, Cool, Chill(-1℃), and Soft Freeze(-5℃) options can be selected in sequence. Cool option maintains a set temperature of the refrigerator.

2) Quick Cool function

2-1) If the Quick Cool is selected, LEDs will flash 60 and Min. The count will be decreased in every minute.
2-2) To cancel this function, press Quick Cool button again or Thaw button or Select button. Otherwise, it will be terminated 60 minutes later automatically.
2-3) After this function ends, this drawer will come back to Cool option.
2-4) A defrost cycle will be postponed until Quick Cool option is finished.

3) Thaw function

3-1)When the thaw button is pressed, LEDs will flash 4, 6, 10, and 12 in sequence and Hr.
3-2) The count will be decreased in every hour.
3-3) A cancellation of this function is same as Quick Cool function.
3-4) After this function ends, this drawer will be maintained with -1℃.
3-5) While the compressor is on, this drawer retains a certain temperature and while the compressor is off, the defrost heater is activated and R-FAN is on with a closed position of the damper.

9-8) Water Filter Indicator Function

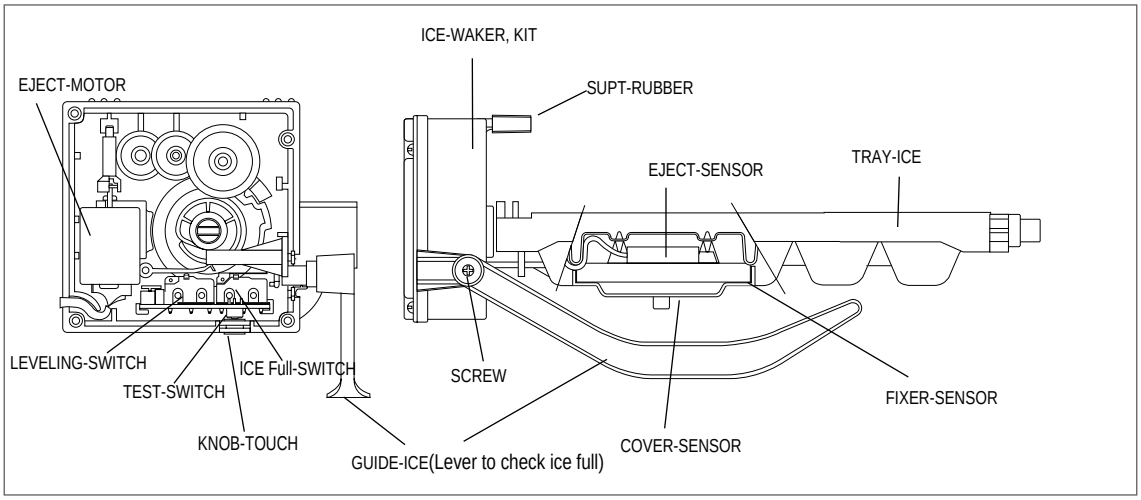
1) Filter Indicator

1-1)This indicator initally lights in green. The light color will be changed to orange after 5 month operation then to red at the 6th month. The EEPROM in the control board counts a period of time regardless of a power failure.
1-2)To reset the counter and the light color, press Ice Type button and Child lock button for 3 seconds simultaneously.
1-3)If these two buttons are pressed simultaneously for 5 seconds, this function will cease.
1-4)To restore this function, press these buttons again for 3 seconds.

9-9) Ice-Maker Function

● The Ice-maker is referred to the device with an automatic ice production, storage in the ice bucket and dispensing through the ice chute.

1) Ice-maker parts

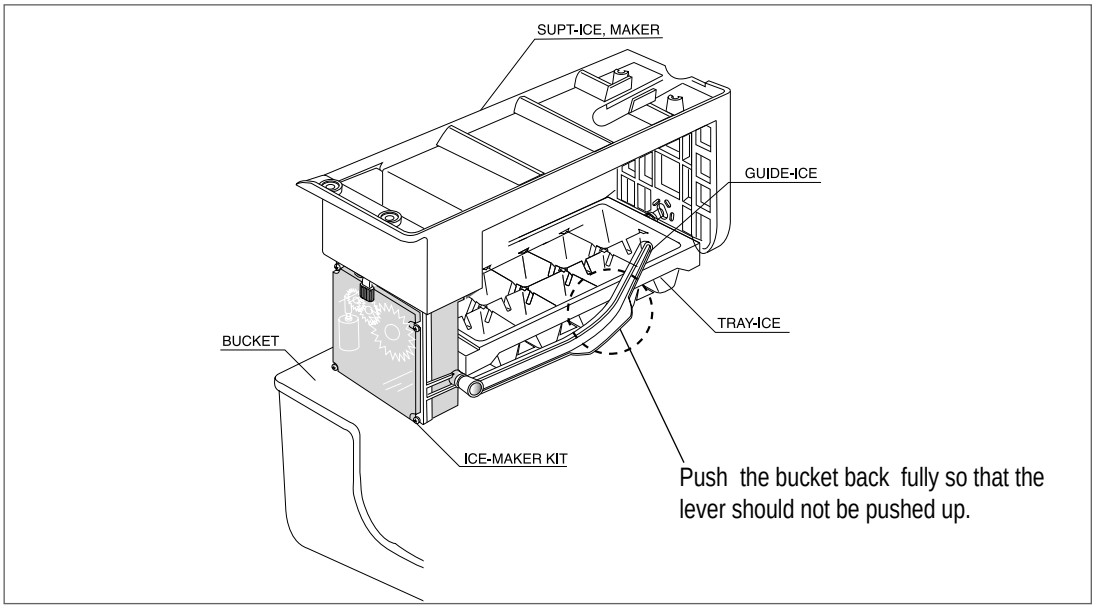


2) Preparation of Ice-maker

2-1) Connect the water line to the water supply valve of refrigerator to supply water. (See how to connect a water supply line in the owner's manual.)

2-2) Push the bucket back fully so that the guide-ice of ice maker should not touch the back of bucket. (If the back of bucket touches the guide-ice of ice maker, the ice maker will not make ice any more because of a ice full signal.)

2-3) It takes 6 hours to have a first ice, and throw away 2-3 times of these ice to make sure the supplied water clean.



1) Initial Operation function

1-1) Whenever the power is on, the control board checks the ice tray leveling with the leveling switch within 2 seconds.

1-2) If the leveling switch is not off position, the geared motor will turn to the initial position to make the ice tray leveled.

1-3) When the ice tray is leveled, it will remain this position for 2 hours (1 cycle time for ice production).

1-4) After 2 hours, the sensor located under the ice tray will measure the tray temperature. If the temperature is maintained lower than -7 ℃ for 5 minutes, and the ice full switch is off position, the ice tray twisting process will begin.

<Reference table>

Leveling S/W	Ice full S/W	Judgement	Remark
ON("LOW")	ON("LOW")	Not ready	・MICOM Port PIN #51: Leveling PIN #51: Ice full ・Port level OFF : 4.5V ↑ ON : 0.5V ↓
ON("LOW")	OFF("HIGH")	Not ready	
OFF("HIGH")	ON("LOW")	Not ready(Ice bucket with full of ice)	
OFF("HIGH")	OFF("HIGH")	Ready	

2) Water Supply function
2-1) When the ice tray is leveled again after ejecting ice, the water solenoid value will be controlled to supply water by time check basis. (See the “Time to supply water” Table)

3) Ice production
3-1) After 90 minutes pass from the water supply, the control board will check the temperature.
3-2) If the sensor reads the temperature lower than -7℃ for more than 5 minutes, than the ice production process is completed.

4) Test function
- In order to operate a test function, press the knob (Test Switch) for 1.5 second.
- This function can be used to check a proper working, to clean the ice tray, and to adjust the water level in the ice tray.

4-1) This function only works when the ice tray is leveled and the ice full signal is cleared.
4-2) When the water line is connected, each process such as a water supply, ejection, and leveling, can be investigated by this button.

5) Ice off function
5-1) When the Ice off option is selected by Ice Type button, the ice making process will cease.
5-2) When the ice making process ceases, the final state will be the ice tray with the supplied water.
5-3) When Cubed or Crushed option is selected again, the control board will check an accummlated time period. After making it 90 minutes and when the ice tray temperature is acceptable, ice ejection process will begin.

6) Functions when the freezer door is open
- When the freeze door is open, all ice maker related processes will cease in order to minimize noise and to prevent ice from dispensing.

6-1) The ice tray stops moving regardless of the position.
6-2) The water supply process remains working as usual.
6-3) If the ice tray is in the middle of ice ejecting process, close the freezer for 30 seconds and check if the tray is leveled. If it is not leveled, it must be out of order.

9-10) Defrost Function

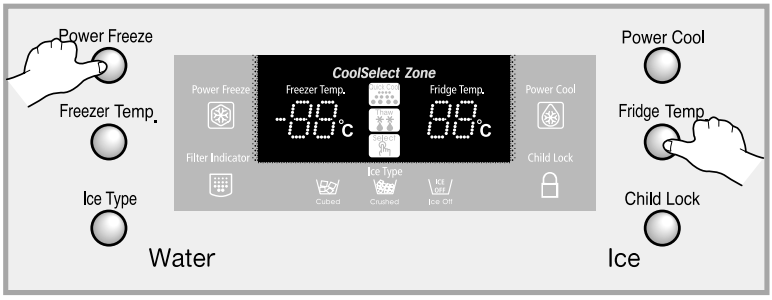
1) A defrost is determined based on the accumulated compressor on-time.
2) When the power is engaged for the first time, the defrost cycle for the freezer and the refrigerator will begin after 4 hours of the accumulated compressor on-time.
3) A defrost interval depends on the ambient temperature, the number of door openings, and the door open time.
4) A minimum interval is 6 hours and a maximum is 8 hours for the refrigerator, and 12 hours and 16 hours for the freezer, respectively.
5) The defrost heater on-time is determined by the defrost sensors as follow :

	Refrigerator	Freezer
Heater ON	Below 10℃	-
Heater OFF	17℃	10℃

9-11) Forced Operation Function (Pull-down / R-Defrost / R.F-Defrost / Cancellation)

- This function enables a pull-down mode, a defrost mode for the refrigerator only, a defrost mode for the freezer and the refrigerator at the same time, and a cancellation of this function.
- Press Power Freeze and Fridge Temp. buttons for 8 seconds simultameously to get in the ready mode for a forced operation.
- The display panel will return to normal after 20 seconds in the ready mode.
- At the ready mode, press any button(except Ice Type and Child Lock) once to start a pull-down operation, twice for a defrost cycle for the refrigerator, three times for a defrost cycle for the freezer and the refrigerator, and finally four times for cancellation of this function.
- Another way to cancel this function is to simply plug out and in the power cord.

Press both button for 8 seconds at the same time.



1) Pull-down Operation

1-1) At the ready mode, press any button once then the buzzer will beep (ON for 1/2 second and OFF for 1/2 second) until this mode is cancelled.

1-2) At this pull-down mode, the compressor will start immediately (No 5 minute delay) and if the system is in the defrost cycle, it will be cancelled right away.

Note) If this pull-down mode begins right after the compressor was off, the compressor may not start to run due to an overload condition.

1-3) At this mode, the compressor and freezer fan will operate continuously for 24 hours and the refrigerator fan will be on and off according to the set temperature(-20 ℃)

1-4) After 24 hour operation, the system will be cycled at -25℃ for the freezer and 1℃ for the refrigerator.

1-5) In order to cancel this mode at any time, select the next mode on the ready mode or power off the system.

2) Defrost operation

2-1) At the pull-down mode, press any button again on the ready mode to begin the defrost cycle for the refrigerator.

2-2) The beep sound continues for 3 second at the beginning, then ON for 3/4 seconds and OFF for 1/4 second until this mode cease.

2-3) After this operation, the system will come back to normal operation.

2-4) At this mode, press any button again on the ready mode to operate the defrost cycles for both compartments.

2-5) The beep sound continues for 3 seconds at that time, then ON for 1/4 second and OFF for 3/4 seconds until the defrost operation cease.

3) Cancellation

3-1) At the R,F-Defrost mode, press any button again on the ready mode to return to a normal operation.

3-2) Simply unplug the power cord, then plug it again to return to a normal operation.

9-12) Sound Function

1) Sound function
1-1) To make sure a command input, whenever a button is pressed, a "ding-dong" sounds.
1-2) When two or more buttons are pressed simultaneously or if a wrong button is pressed, there is no sound.

2) Door Open Alarm
2-1) When the doors remain open for 2 minutes, there are 10 times beeps.
2-2) If the doors continue to remain open more than 2 minutes, the additional 10 beeps interval will change to 1 minute.
2-3) The beeps will cease immediately when the doors are closed.

9-13) Exhibition Function

● This function is for a display purpose on the floor of show room or store.

1) Mode ON/OFF
1-1) For the exhibition mode, press Power Freeze and Freezer Temp. buttons simultaneously for 8 seconds until a "ding-dong" sounds.
1-2) Press the same time buttons again for 8 seconds to cancel this mode put with a "ding-dong" sound.

2) Operation
2-1) Most of the system function except the compressor operation are working properly.
2-2) There is no defrost cycle in this mode.

9-14) Self-Diagnostics Function

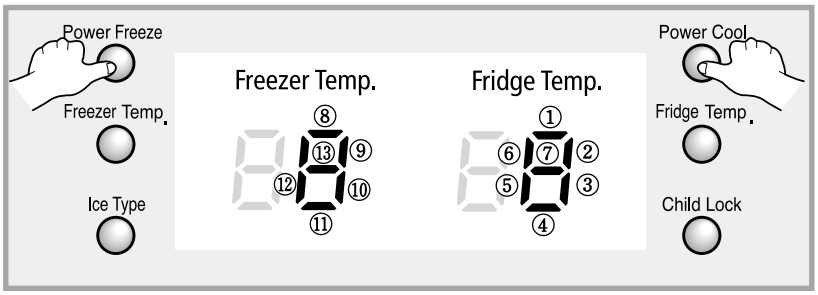
1) Self-Diagnostics in the initial Power ON
1-1)The control board performs a self diagnostics test within 1 second and check out the temperature sensors abilities.
1-2) If a sensor failure occurs, a corresponding LED segment will blink with a beep.
1-3) When a LED segment blinks, only the cancellation function (Press Power Freeze and Power Cool buttons simultaneously for 8 seconds) is acceptable.
1-4) After a replacement of bad sensor or a cancellation of this function, this self diagnostics will end.

2) Self-Diagnostics in the normal operation
2-1) To select this function, press Power Freeze and Power Cool buttons simultaneously for 8 seconds with an audible tone.
2-2) In the self diagnostic mode, only corresponding LED segments will be illuminated (see the check list on the next page)
2-3) After a 30 second illumination of error signal, the system will return to the normal operation.

∗ Self-diagnostics check list

NO	Error
①	ICE-MAKER SENSOR
②	R-SENSOR
③	R-DEF-SENSOR
④	R-FAN ERROR
⑤	I/M function error
⑥	CoolSelect Zone™ SENSOR
⑦	R-DEFROST ERROR
⑧	EXIT-SENSOR
⑨	F-SENSOR
⑩	F-DEF ERROR
⑪	F-FAN ERROR
⑫	C-FAN ERROR
⑬	F-DEFROST ERROR

Press both buttons simultaneously for 8 seconds



If any LEDs blink, the corresponding sensors and components must be checked for an error.

∗ Error items of self-diagnostics

NO	Error items	LED Display	Details	Remarks
01	I/M-SENSOR	REF. SEGMENT	I/M sensor connector missing; contact failure, electric wire cut, short-circuit; I/M-sensor failure; and so on	Indicate Error when the temperature sensed by I/M-sensor is higher than 65℃ or lower than -50℃.
02	R-SENSOR	REF. SEGMENT	REF sensor connector missing; contact failure, electric wire cut, short- circuit; R-sensor itself failure; and so on	Indicate Error when the temperature sensed by R-sensor is higher than 65℃ or lower than -50℃.
03	REF DEFROST SENSOR	REF. SEGMENT	REF evaporator internal defrosting sensor connector missing; contact failure, electric wire cut, short-circuit; sensor itself failure; and so on	Indicate Error when the temperature sensed by R defrosting sensor is higher than 65℃ or lower than -50℃.
04	R-FAN ERROR	REF. SEGMENT	R-Fan motor operation failure; feedback signal line contact failed, electric wire cut, short- circuit; and so on	Indicate Error if the F and G signals generated by the FAN-motor operation are not input.
05	I/M function ERROR	FREEZER SEGMENT	Ice-ejector and level failed three times or more	
06	CoolSelect Zone™ sensor	REF. SEGMENT	CoolSelect Zone™ sensor connector missing; contact failed, electric wire cut, short-circuit; CoolSelect Zone™ sensor itself failed; and so on.	Indicate Error when the temperature sensed by CoolSelect Zone™ sensor is higher than 65℃ or lower than -50℃.
07	R-DEFROST ERROR	REF. SEGMENT	In the refrigerator room, if frost removal mode is finished due to limited time of 80 minutes. Error is displayed.	-
08	Ambient Air SENSOR	FREEZER SEGMENT	Air sensor connector missing; contact failure, electric wire cut, short-circuit; open air sensor itself failure; and so on	Indicate Error when the temperature sensed by the open air sensor is higher than 65℃ or lower than -50℃.
09	F-SENSOR	FREEZER SEGMENT	FRE sensor connector missing; contact failed, electric wire cut, short-circuit; F-Room sensor itself failure.	Indicate Error when the temperature sensed by F-sensor is higher than 65℃ or lower than -50℃.
10	FRE Defrost SENSOR	FREEZER SEGMENT	FRE evaporator defrosting sensor connector missing; contact failed, electric wire cut, short-circuit; sensor itself failure; and so on	Indicate Error when the temperature sensed by F-defrosting sensor is higher than 65℃ or lower than -50℃.
11	F-FAN ERROR	FREEZER SEGMENT	F-Fan motor operation failure; feedback signal line contact failure, motor's electric wire missing; and so on.	Indicate Error if the F and G signals generated by the FAN-motor operation are not input.
12	C-FAN ERROR (COMP-FAN)	FREEZER SEGMENT	C-Fan motor operation failure; feedback signal line contact failure, motor's electric wire missing; and so on.	Indicate Error if the F and G signals generated by the FAN-motor operation are not input
13	F-DEFROST ERROR	FREEZER SEGMENT	In the freezer room, if frost removal mode is finished due to limited time of 80 minutes. Error is displayed	-

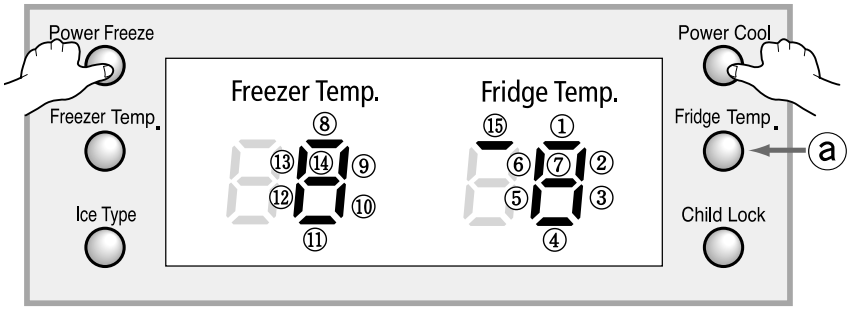
9-15) Load Operation Check Function

1) In the normal operation, press Power Freeze and Power Cool buttons simultaneously for 6 second, then the display panel will blink for 2 seconds.
2) Press Fridge Temp. button ⓐ to get into this check mode with an audible tone.
3) Each illuminating LED segment stands for the component which has an ouput signal from the control board.
4) This mode will terminate automatically after 30 seconds.

∗ Table of Load Mode Check List

NO	Contents
①	R-FAN High or AC motor operation
②	R-FAN Low
③	R-DEF heater
④	Start mode
⑤	Overload mode
⑥	Low-temperature mode
⑦	Exhibition mode
⑧	COMP
⑨	F-FAN High
⑩	F-FAN Low
⑪	F-DEF-Heater
⑫	C-FAN High
⑬	C-FAN Low
⑭	Dispenser-Heater
⑮	Damper
-	Normal condition

Press both buttons simultaneously for 6 seconds, all LED lights will be turned off. At this time press button ⓐ



※ For the R-FAN, only one rpm is applied for the current models, so that ① and ② show R-FAN operation only.
※ The F-FAN and C-FAN are operated to High/Low rpm automatically according to the operational condition.
※ ④⑤ and ⑥ only explain the system operation status according to the ambient condition

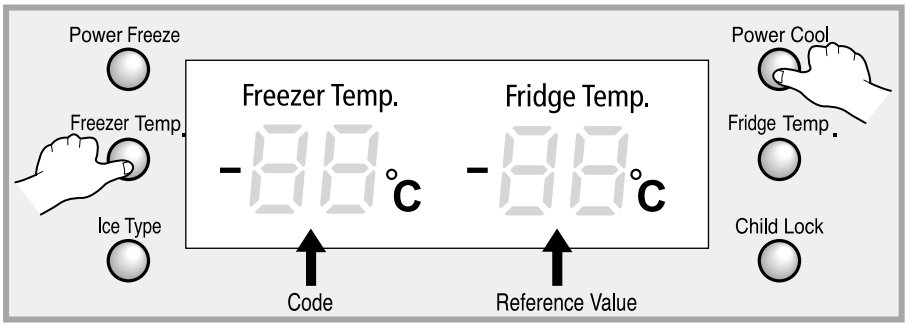
9-16) Restoration Function for Power Outage

1) When the freezer temperature is lower than 5˚C, all functions on the display panel will be restored.
2) When the freezer temperature is higher than 5˚C, all functions will be initialized.
(-20˚C for the freezer, 2˚C for the refrigerator, and Cubed for the Ice Type)

9-17) Set Point Shift Function

- Press Freezer Temp. and Power Cool buttons simultaneously for 12 seconds to get into this mode.
- In this mode, only the display LEDs for temperature will be ON.

Press both buttons simultaneously for 12 seconds



1) Initially, all products set the code, “0” and press Power Cool or Fridge Temp. to increase or decrease # of Reference.

2) To increase or decrease #of Code,press the Power Freeze or Freezer Temp. so that it can be adjusted such as the temperatures of freezer,refrigerator,Ice maker,and CoolSelect Zone™,and the quantity of water supply.

3) After 20 seconds from adjustment, a new setting will be stored in EEPROM and return to the normal display.

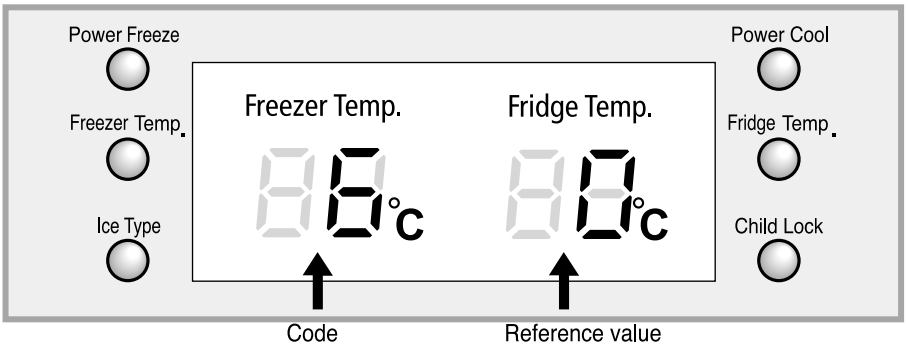
9-18) Table of Set Point Shift Function

1) Shift the freezer temperature sensor

Reference Value	0

Code	Temp. shift	Code	Temp. shift
0	0	8	0.5℃
1	-0.5℃	9	1.0℃
2	-1.0℃	10	1.5℃
3	-1.5℃	11	2.0℃
4	-2.0℃	12	2.5℃
5	-2.5℃	13	3.0℃
6	-3.0℃	14	3.5℃
7	-3.5℃	15	4.0℃

Example) If you are lowering the current temperature of the freezer by －3.0℃

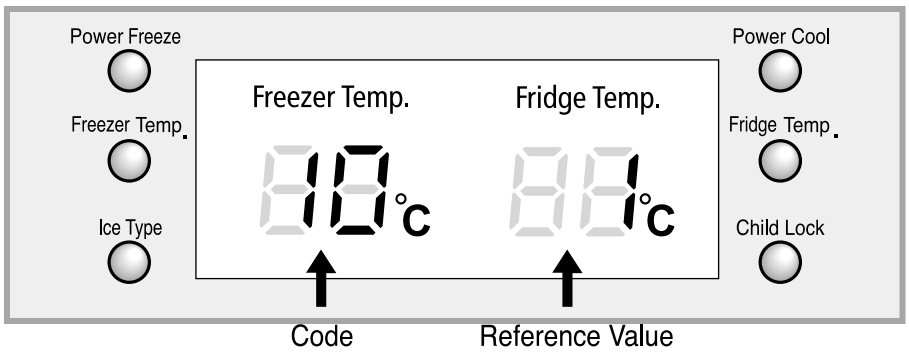


2) Shift the refrigerator temperature sensor

Reference Value	1

Code	Temp. shift	Code	Temp. shift
0	0	8	0.5℃
1	－0.5℃	9	1.0℃
2	－1.0℃	10	1.5℃
3	－1.5℃	11	2.0℃
4	－2.0℃	12	2.5℃
5	－2.5℃	13	3.0℃
6	－3.0℃	14	3.5℃
7	－3.5℃	15	4.0℃

Example) If you are raising the current temperature of the refrigerator by ＋1.5℃



■ The following options is limited to a model with the Ice Maker.

3) Adjust the time to supply water for the ice maker

Reference Value	3

Code	Time to supply water
0	5 sec
1	4 sec
2	3 sec
3	6 sec
4	7 sec
5	8 sec
6	9 sec
7	10 sec
8	12 sec
9	13 sec
10	15 sec
11	17 sec
12	19 sec
13	21 sec
14	23 sec
15	25 sec

4) Shift the Ice maker temperature sensor

Reference Value	4

Code	Ice maker temperature sensor
0	-7℃
1	-6℃
2	-8℃
3	-9℃
4	-10℃
5	-11℃
6	-12℃
7	-13℃

5) Shift the CoolSelect Zone™ temperature sensor.

Reference Value	20

Code	CoolSelect Zone™ temperature sensor
0	0
1	- 0.5℃
2	- 1.0℃
3	- 1.5℃
4	0.5℃
5	1.0℃
6	1.5℃
7	2.0℃

10. Circuit Descriptions

10-1) Source Power Circuit 44

10-2) Oscillator Circuit 44

10-3) Reset Circuit 44

10-4) Door S/W Sensing Circuit 45

10-5) Temperature Sensing Circuit 45

10-6) Key Scan and Display Circuit 46

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10-9) EEPROM Circuit 50

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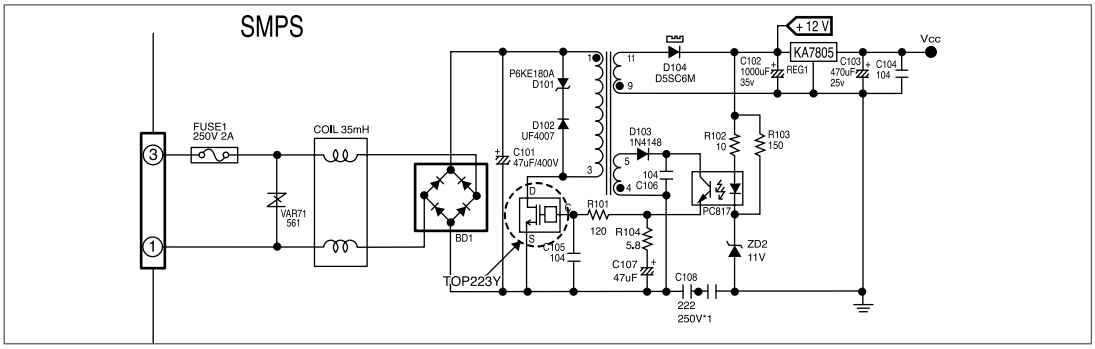
Circuit Descriptions

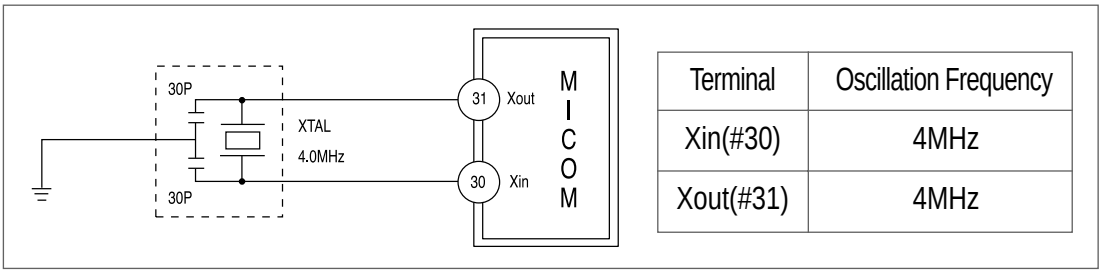
10-1) Source Power Circuit



This circuit shows SMPS(Switch Mode Power Supply) which converts AC input voltage (230V, 50Hz) to a high DC voltage (about 320V). The input AC source power is converted to DC through a wave rectifier (BD1) and the converted DC power will generate a constant waveform on the switching transformer using a high speed (100KHz) switching motion of TOP223Y. The D104 will rectify the generated voltage and transform into a steady 12V DC source power used for the digital display panel and relays. The regulator (KA7805) finally transforms into 5V DC source power for the control board and sensor's circuits.

Caution) Be careful to handle this circuit due to high voltages (AC115V, DC170V)

10-2) Oscillator Circuit

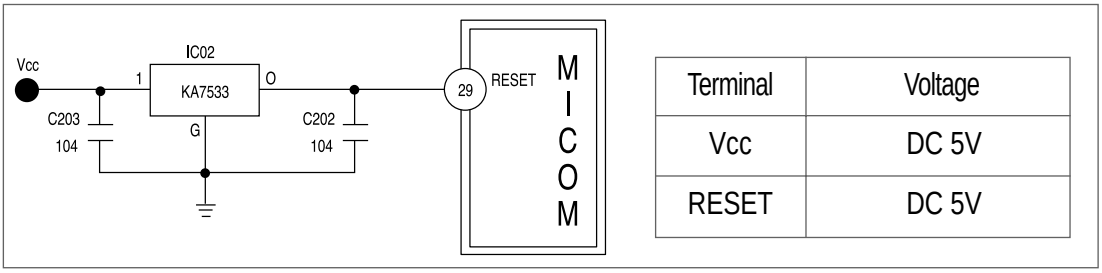


Terminal	Oscillation Frequency
Xin(#30)	4MHz
Xout(#31)	4MHz

This is oscillator circuit to generate synchronous clocks used to calculate the time for the microprocessor operation.

Note) If the specification of a resonator changes, micro-processor can not work properly.

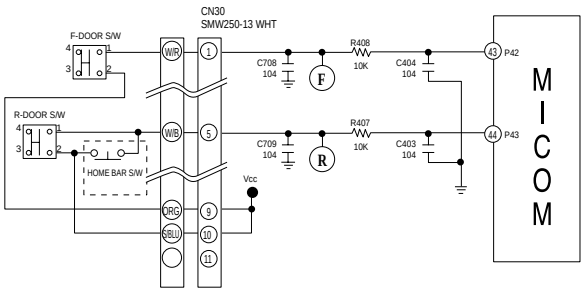
10-3) Reset Circuit



Terminal	Voltage
Vcc	DC 5V
RESET	DC 5V

The reset circuit is to initialize the values RAM & other sectors of micro-processor. When the power is engaged initially, the reset voltage becomes "Low," and it keeps "High" in the normal operation.

10-4) Door S/W Sensing Circuit



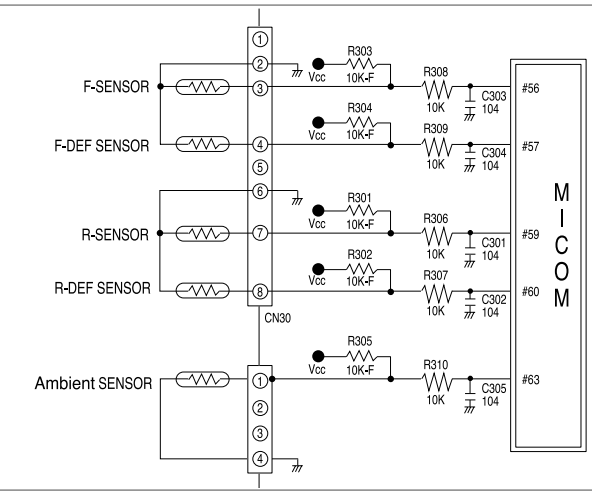
Terminal	Operation	Volt(state)
Freezer (MICOM43PORT)	DOOR OPEN	0V (LOW)
	DOOR CLOSE	5V (HIGH)
Ref. (MICOM44PORT)	DOOR OPEN	0V (LOW)
	DOOR CLOSE	5V (HIGH)

1) F-Room door open is picked up based on the state (5V/0V) of the MICOM No.43 Port.
When the F-Room door opens, it becomes short between the Door S/W 1 &2.And,5V is supplied in the following order. CN30 No.⑨ → F-Door S/W → CN30 No.① → R408(1 0K)→MICOM 43 PORT
When the state of MICOM 43 PORT is 0V, the door is picked up as closed. When it is 5V, the door is considered to be open.

2) R-Room door open is picked up based on the state (5V/0V) of the MICOM No.44 Port.
When the R-Room door opens, it becomes short between the Door S/W 1 &2.And,5Vis supplied in the following order. CN30 No.⑩ → R-Door S/W → CN30 No.⑤ → R407(1 0K)→MICOM 44 PORT
When the state of MICOM 44 PORT is 0V, the door is picked up as closed. When it is 5V, the door is considered to be open.

3) When door open is detected, the MICOM have the relevant Fan Motor stop and the relevant Room Lamp light up. Depending on the state of Door Open/Close, there are following operations; Lamp On/Off, Fan Motor On/Off and Door open alarm. So, check relevant items upon A/S.

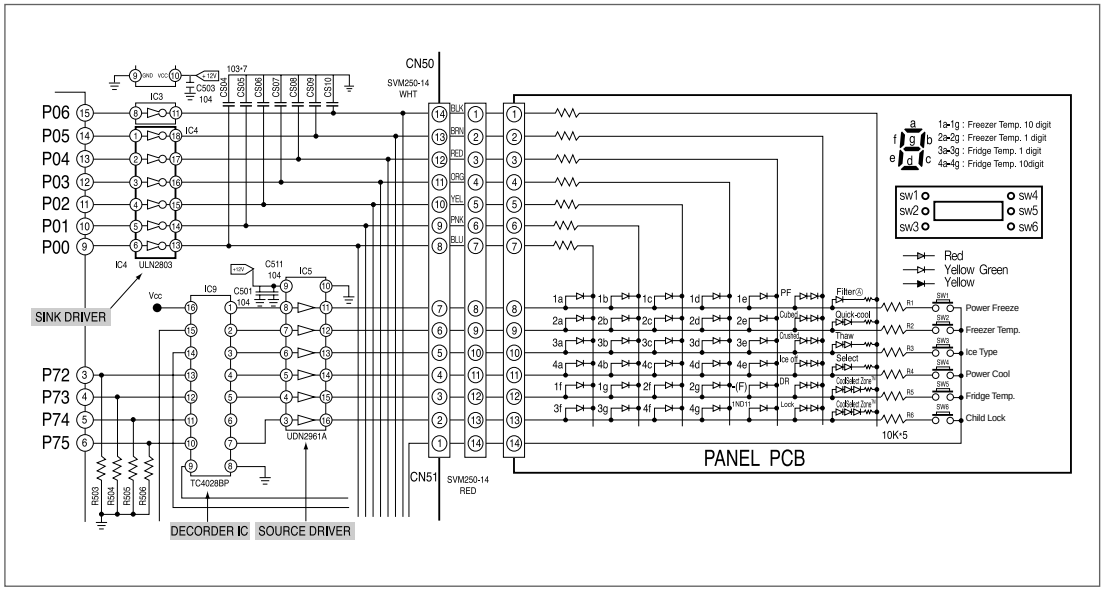
10-5) Temperature Sensing Circuit



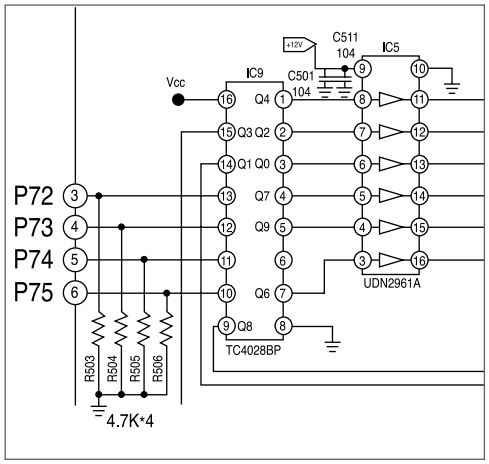
# of terminal in MICOM	Remark
PIN #56 (F-SENSOR)	Micom terminal voltage may change according to temp.
PIN #57 (F-DEF-SENSOR)	
PIN #59 (R-SENSOR)	
PIN #60 (R-DEF-SENSOR)	
PIN #63 (EXT-SENSOR)	

1) A thermistor with a negative temperature coefficient (NTC) is used for a temperature sensor.
2) Resistors, R 306 ~ R310 and capacitors, C 301 ~ C 305 are used for a noise protection purpose.
3) For the F-sensor, the input voltage into the micro processor (MICOM), VF is calculated by (Rth x Vcc)/(R303+ Rth), where Rth is a corresponding resistance to the thermistor's output (See Ref. 6 in Appendix).
4) The F-Def sensor is connected with a bimetal and a temperature sensor is in parallel. In a normal operation of the system, the bimetal is on and 0V is input into the micro-processor. During a defrost cycle, the bimetal will be off from 54˚F, and a divided voltage with R304 enter to the micro-processor to keep sensing the set temperature.

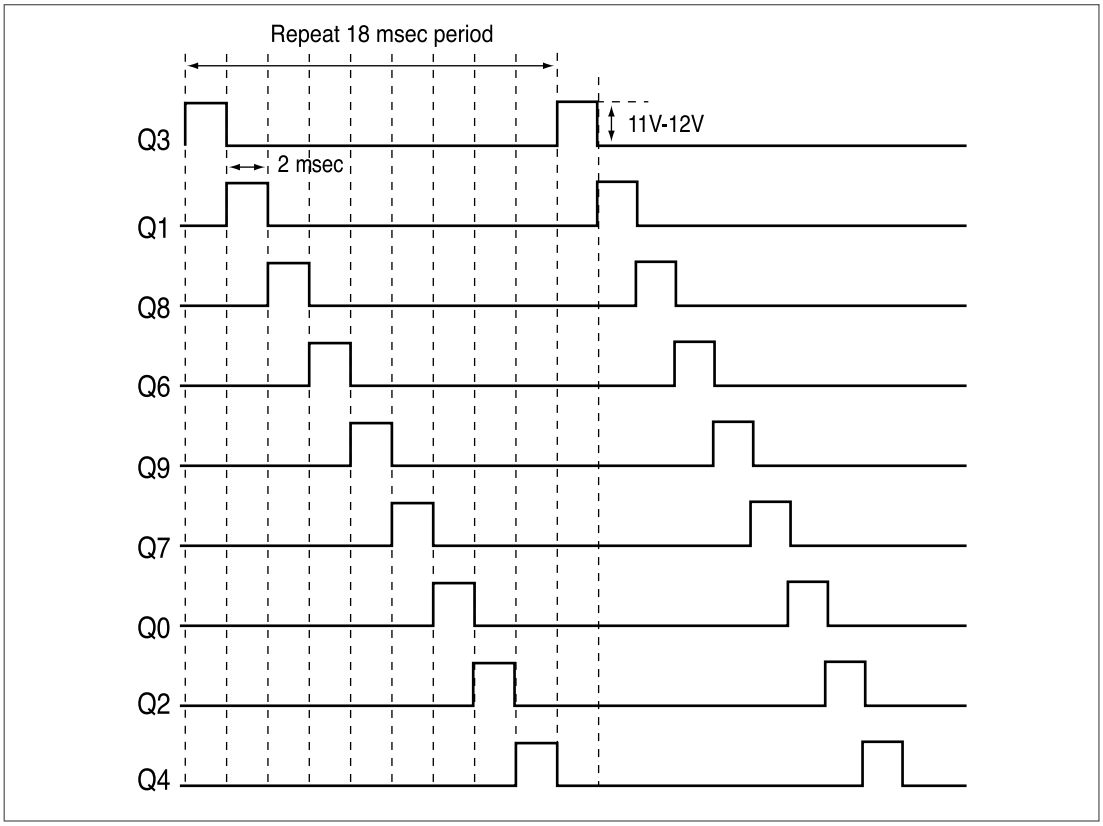
10-6) Key Scan and Display Circuit



1) Key Scan and display operation.



The model uses a decorder IC which 4 inputs and 9 outputs. If the IC 9 decorder (TC4028BP) receivesd signals from MICOM pins (3~6), an output signal per 2 miliseconds comes out from Q3, Q41, Q8, Q6, Q9, Q7, Q0, Q2, and Q4 pin in sequence. This signal enters to a driver IC input terminal of the CoolSelect Zone™ PCB and IC5 (TD 62783AP), then approximate 11V peaks will generate from an output terminal as shown on the next page.



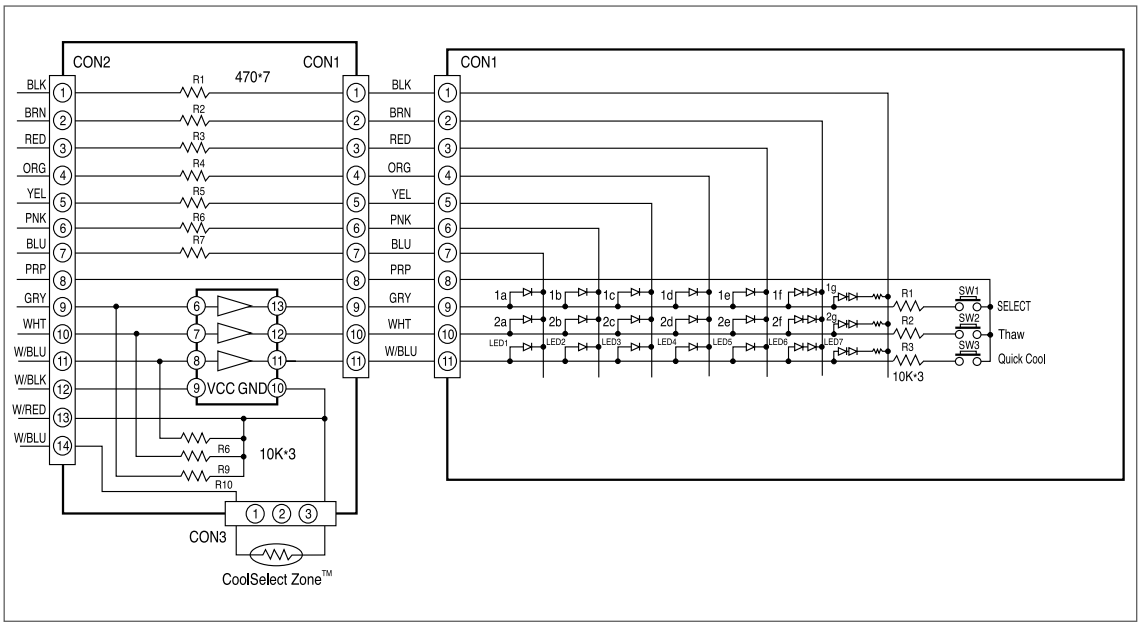
The step signals of DC 11～ 12V will be generated periodically. If a sink signal outputs from IC4, DC 11-12V will be applied to the LED input terminal and sink the LED output terminal to 0V. Therefore, LED will be ON for 2 miliseconds.

2) Key Scan

The 6 step signals, Q6～Q4 are applied to scan the 6 keys (buttons). When SW6 is pressed, the step signal from Q6 will be reduced to 5V and entered to the MICOM, then MICOM will match a corresponding function for SW6 key.

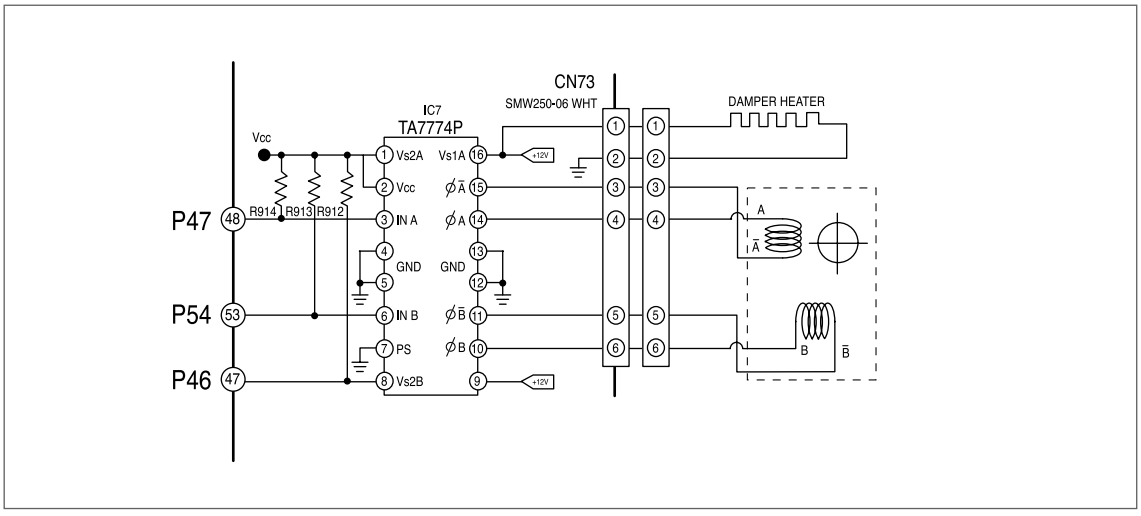
10-7) CoolSelect Zone™ Panel Circuit

1) CoolSelect Zone™ display panel and temperature sensor



1-1) CoolSelect Zone™ is referred to as a storage drawer to implement features of Quick cool, Thaw, and Select (Soft Freeze, Chill, and Cool).
1-2) CoolSelect Zone™ has an additional display panel. Panel LED are off while the doors are closed. When a door is open, micro-processor senses its signal and LEDs will be on.
1-3) The basic operational principle is the same as the key scan process.
1-4) The additional sensor can measure the temperature of CoolSelect Zone™. This sensor enables to control the features of CoolSelect Zone™.

2) Damper drive circuit

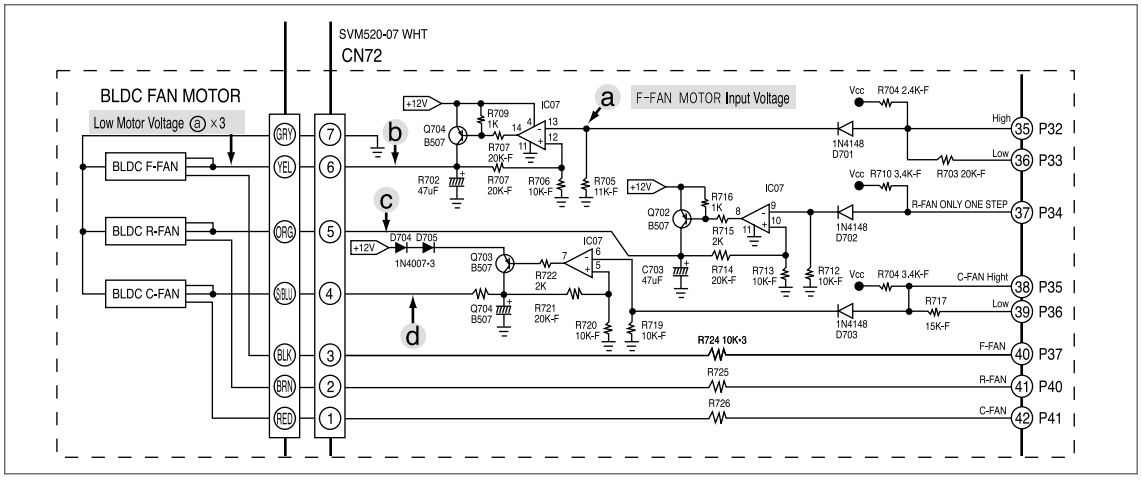


2-1) CoolSelect Zone™ Drawer is controlled by a damper to supply or block cold air. For Quick Cool, the damper will be close. So cold air is supplied only to CoolSelect Zone™ Drawer. For Thaw, the evaporator heater of refrigerator is ON and the damper is controlled by the refrigerator temperature.

2-2) The stepping motor controlled by a Driver IC TA7774P(IC7) operates the damper. The stepping motor uses 4 combined signals to open and close the damper.

Note) To prevent the malfunction from a high humidity, a DC 12V, 1 watt heater is mounted and activated continuously.

10-8) Fan Motor (BLDC) Drive Circuit



1) Motor drive circuit

1-1) This refrigerator adopts a BLDC motor froeduce energy consumption, Motors of the freezer, refrigerator and the machine compartment are composed of the BLDC. For RS2533, R-fan is operated by AC 115V Motor.

1-2) Voltages between high-speed and low-speed

	Voltage of motor			Remark
	Measure b (F-FAN)	Measure C (R-FAN)	Measure d(C-FAN)	In the normal operation, MICOM No. 40, 41 and 42 applies a constant frequency; and MICOM defects the signal to check the failure of motor. (frequency(Hz) × 12 = motor rpm)
High	11.1V	10V	10V	
Low	10V	10V	8.3V	

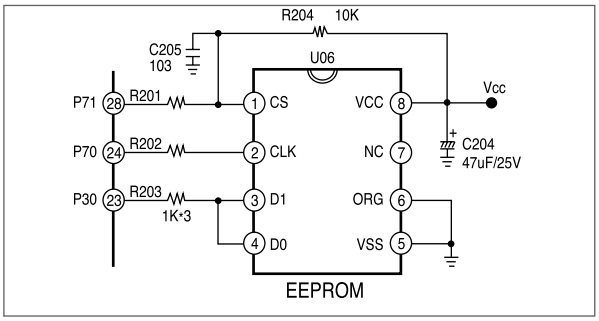
Note) Under the conditions, the fans will be operated in 2 options, such as High and Low mode. Generally, it is operated in the High mode during a day time and in the Low mode at night.

1-3) When the motor rpm is in 600∼700, it will stop automatically and it tries to resume after 10 seconds. If the motor is not working properly after 5 time trials, it will rest for 10 minutes, then try to resume again. This process will be done continuously.

Note) If there is an abnormal situation for the motor, the self-diagnostics will show the corresponding LED segment.

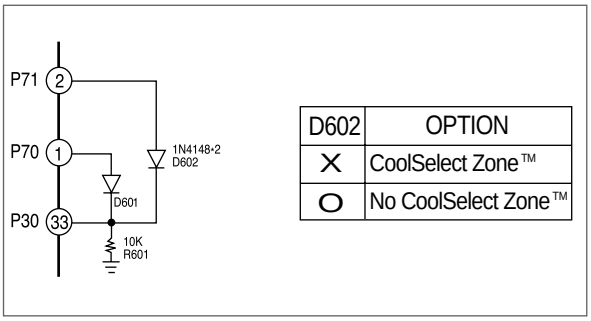
10-9) EEPROM Circuit

EEPROM is semiconductor memory not to be erased. It can be used in the area of unstable electric power.



10-10) Option Circuit

There are a variety of models that have a different function. A different model can set up to use option circuit as shown.



D602	OPTION
X	CoolSelect Zone™
O	No CoolSelect Zone™

10-11) Load Drive Circuit

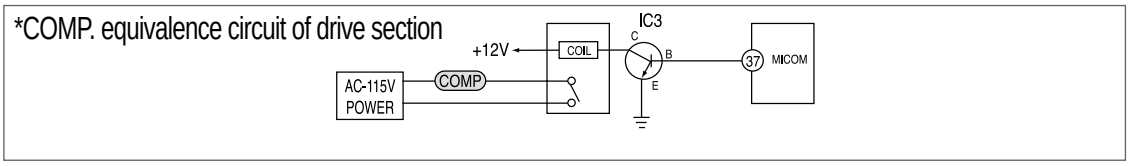
1) The control of load in the system is accomplished by the main PCB.

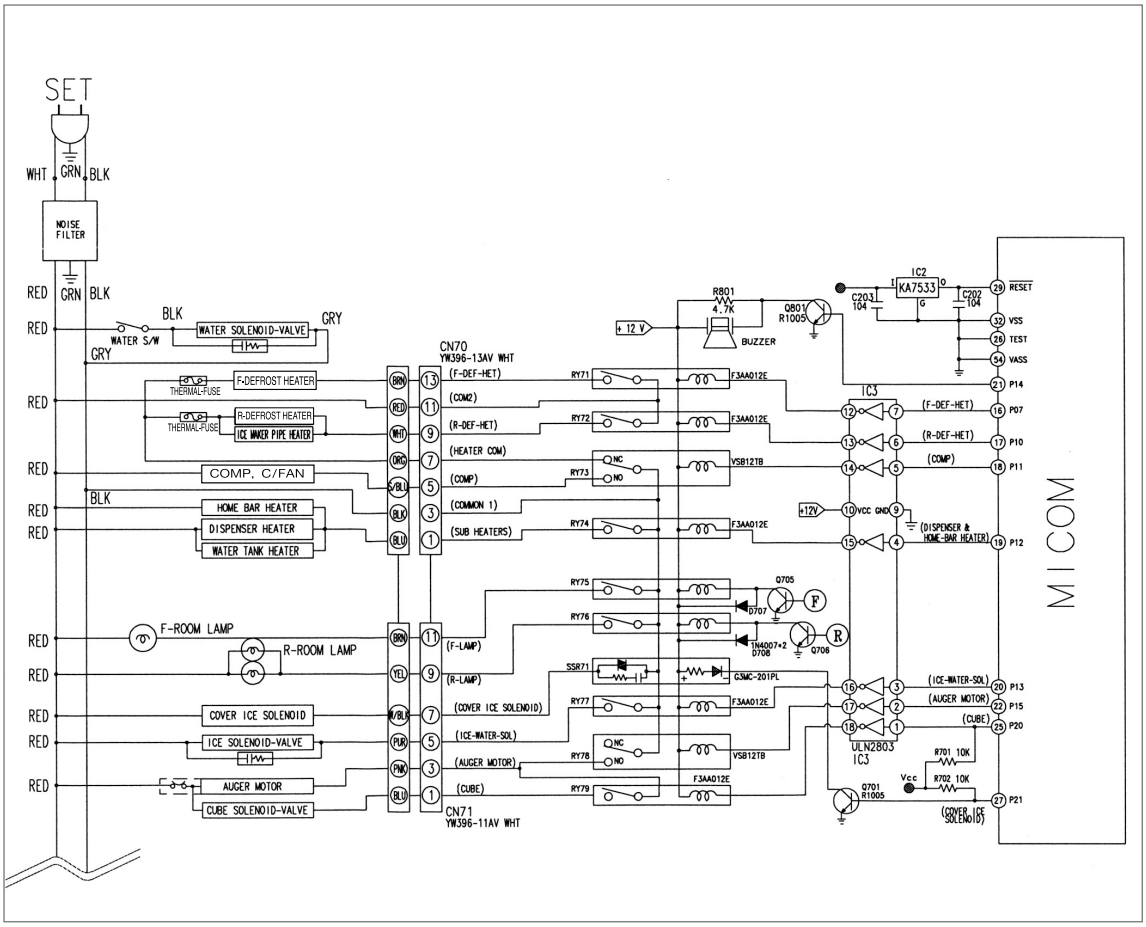
2) Most of relays or SSRs can control the compressor, refrigerator/freezer defrost heater, and several option functions.

3) For the compressor, #18 pin of micro processor signals High (5V). This signal enters #5 pin of IC3 and #14 of output terminal which have base and collector functions of IC3 turns on and connects the GND. Relay 73 will be grounded through #14 of IC. Magnetic field will generate so that the second side of RY73 is activated and 115V is supplied to the compressor. On the other hands, if #18 of micro processor turns Low(0V), #5 of IC3, the current of RY 73 relay, and magnetic field will shut down in sequence. A contact point in secondary side of Relay 73 is off. Finally compressor will stop.

4) The principles of other loads is the same as 3) item described.

Note) SSR(Solid State Relay) is a kind of Relay.





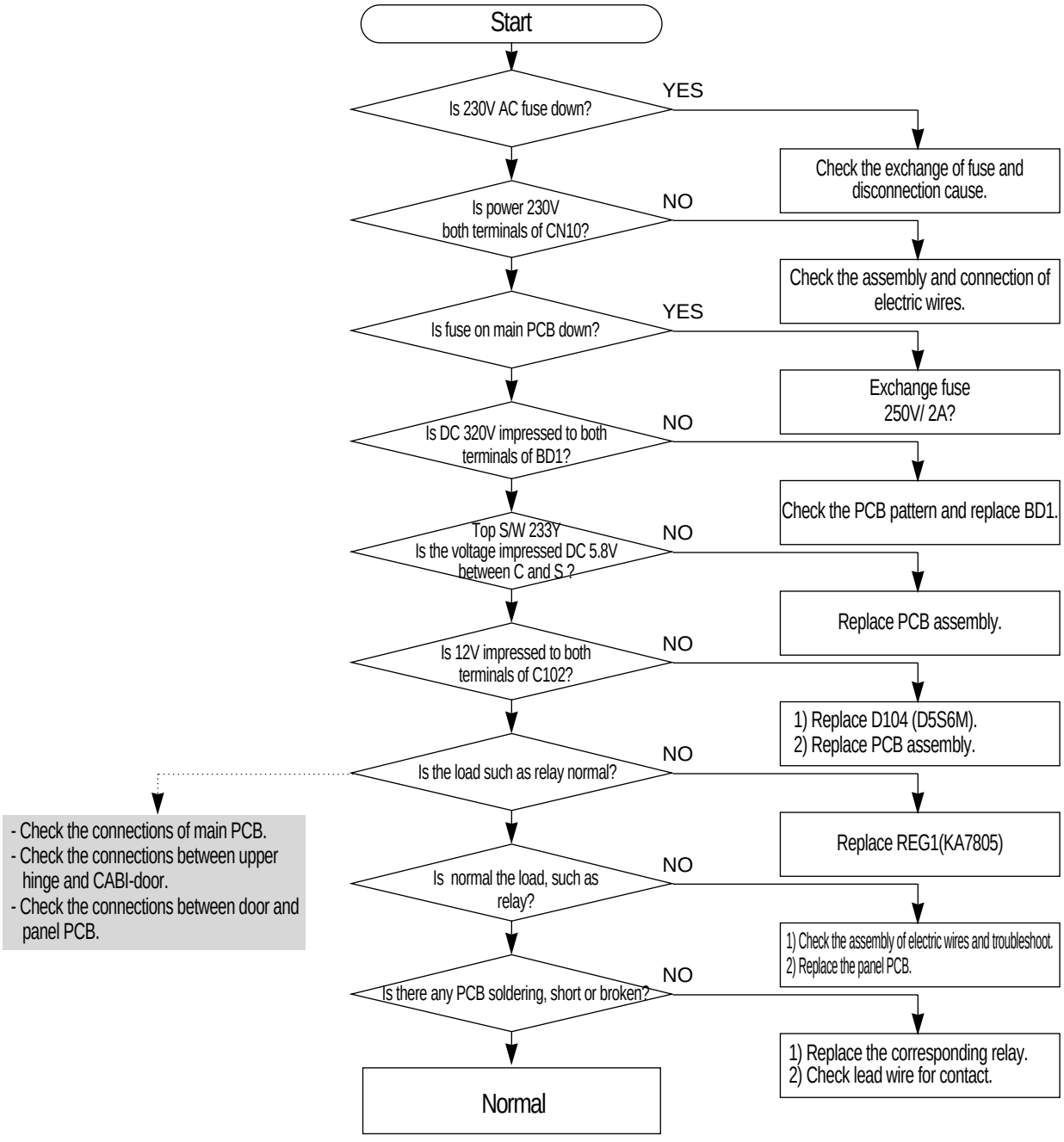
11. Diagnostics

11-1) If power is not ON

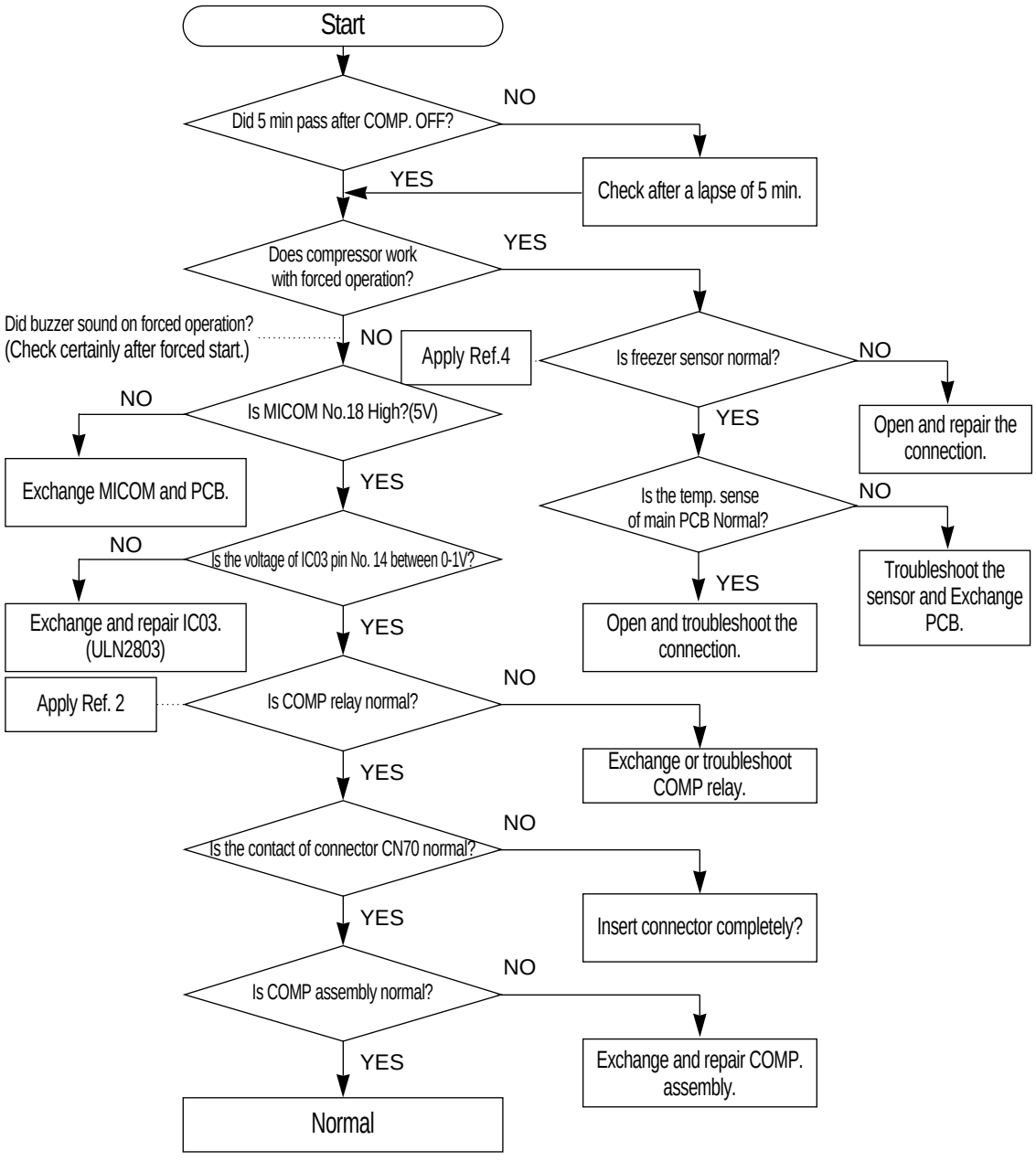
Caution!

At the power of main PCB, the 115V power and a high-voltage over DC 170V occur. Please take care of yourself on repair and measurement.

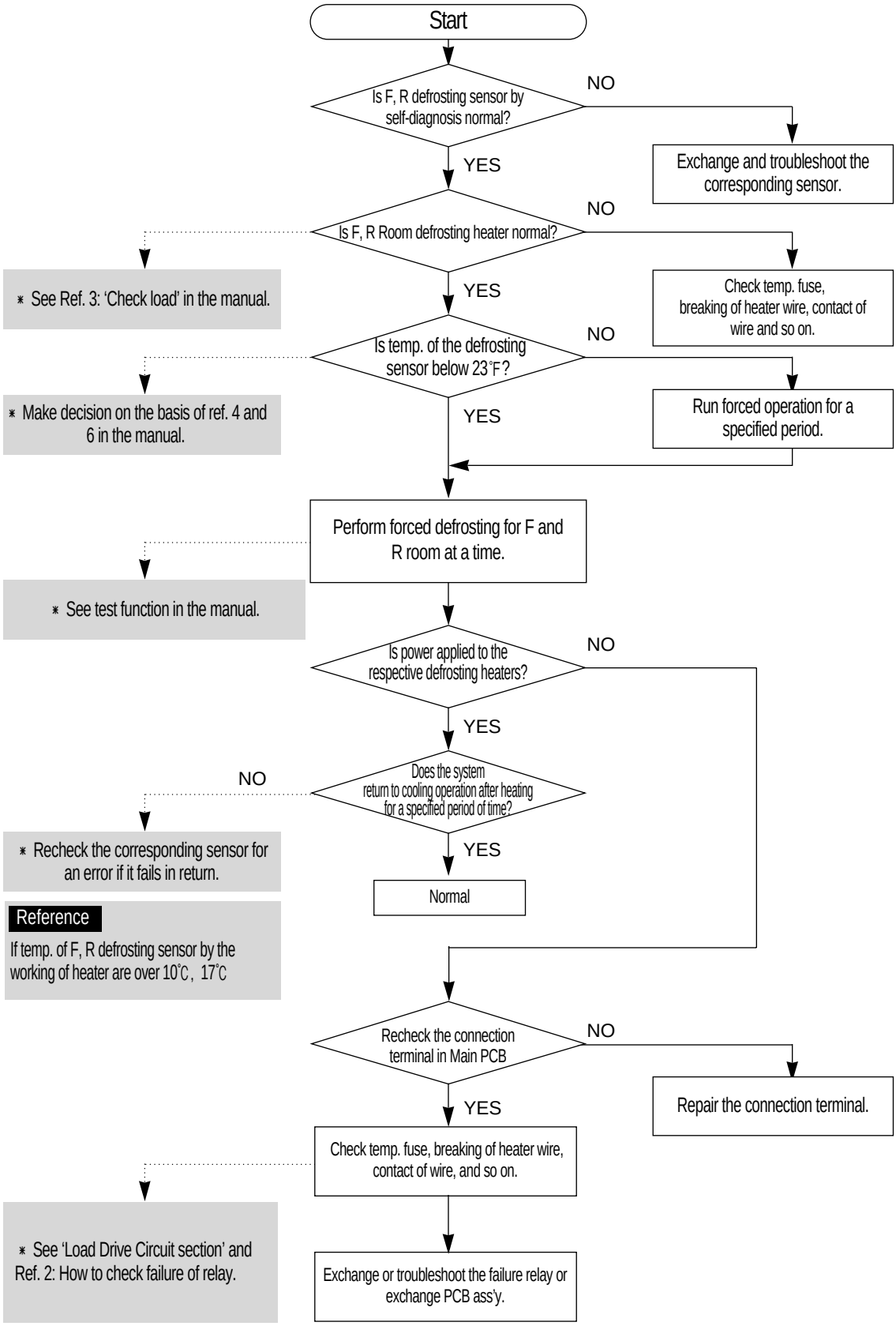
To check the main PCB, please apply descriptions of operation and references in the manual.


Start
Is 230V AC fuse down?
YES
Check the exchange of fuse and disconnection cause.
Is power 230V both terminals of CN10?
NO
Check the assembly and connection of electric wires.
Is fuse on main PCB down?
YES
Exchange fuse 250V/ 2A?
Is DC 320V impressed to both terminals of BD1?
NO
Check the PCB pattern and replace BD1.
Top S/W 233Y Is the voltage impressed DC 5.8V between C and S ?
NO
Replace PCB assembly.
Is 12V impressed to both terminals of C102?
NO
1) Replace D104 (D5S6M).
2) Replace PCB assembly.
Is the load such as relay normal?
NO
- Check the connections of main PCB.
- Check the connections between upper hinge and CABI-door.
- Check the connections between door and panel PCB.
Replace REG1(KA7805)
Is normal the load, such as relay?
NO
1) Check the assembly of electric wires and troubleshoot.
2) Replace the panel PCB.
Is there any PCB soldering, short or broken?
NO
1) Replace the corresponding relay.
2) Check lead wire for contact.
Normal

11-2) If the compressor and cooling fan motor don't work normally



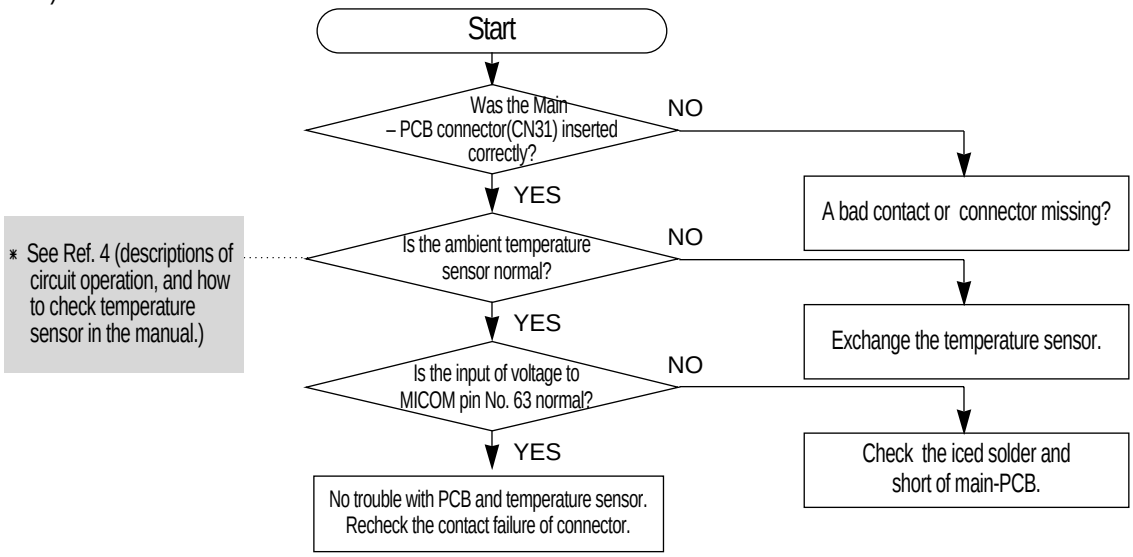
11-3) If defrost function


Start
Is F, R defrosting sensor by self-diagnosis normal?
NO
Exchange and troubleshoot the corresponding sensor.
YES
Is F, R Room defrosting heater normal?
NO
* See Ref. 3: 'Check load' in the manual.
YES
Check temp. fuse, breaking of heater wire, contact of wire and so on.
Is temp. of the defrosting sensor below 23℉?
NO
* Make decision on the basis of ref. 4 and 6 in the manual.
YES
Run forced operation for a specified period.
Perform forced defrosting for F and R room at a time.
* See test function in the manual.
Is power applied to the respective defrosting heaters?
NO
YES
Does the system return to cooling operation after heating for a specified period of time?
NO
* Recheck the corresponding sensor for an error if it fails in return.
YES
Normal
Reference
If temp. of F, R defrosting sensor by the working of heater are over 10℃, 17℃
Recheck the connection terminal in Main PCB
NO
Repair the connection terminal.
YES
Check temp. fuse, breaking of heater wire, contact of wire, and so on.
* See 'Load Drive Circuit section' and Ref. 2: How to check failure of relay.
Exchange or troubleshoot the failure relay or exchange PCB ass'y.

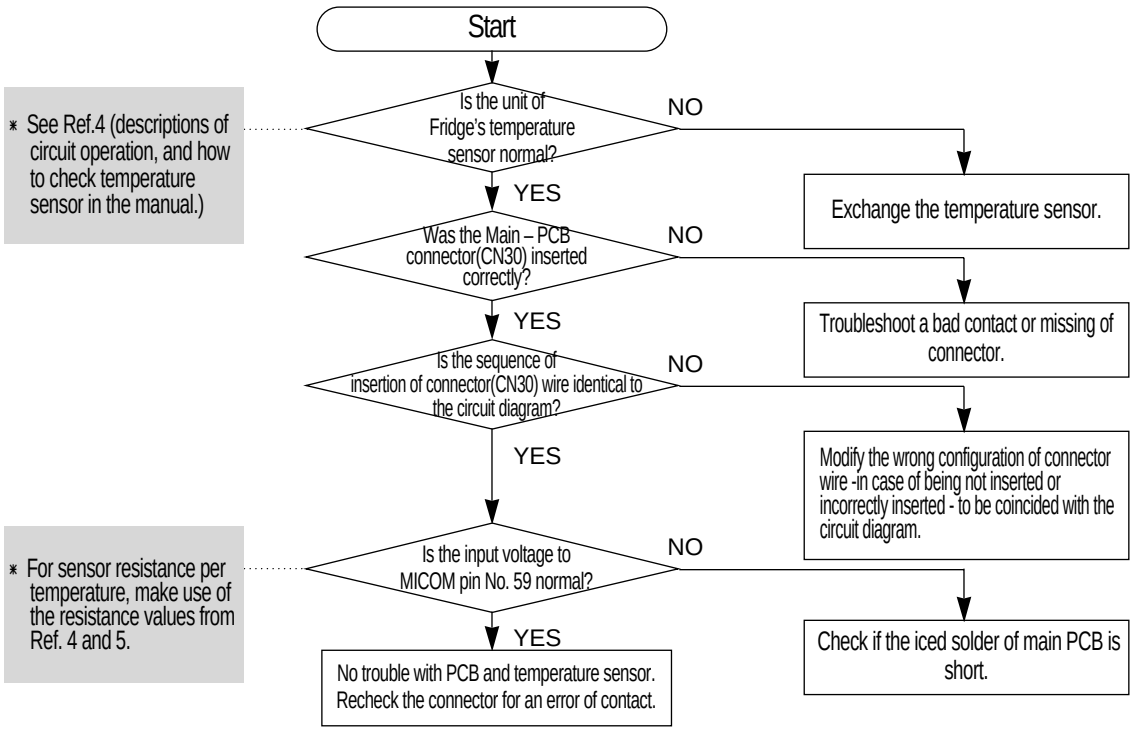
11-4) If there is a trouble with self-diagnosis

- Error of sensor can be seen on the front display of refrigerator. If power is impressed to refrigerator first, an failure of sensor is found. The refrigerator will stop working and display(blink) the region of trouble-occurred sensor repetitively.
- Even if sensor has failure during the operation, the refrigerator will not stop working but can run the normal cooling operation because of being operated in the Emergency Operation mode. Therefore you' re requested to use how to check self-diagnosis in the manual.

1) If the ambient sensor has trouble

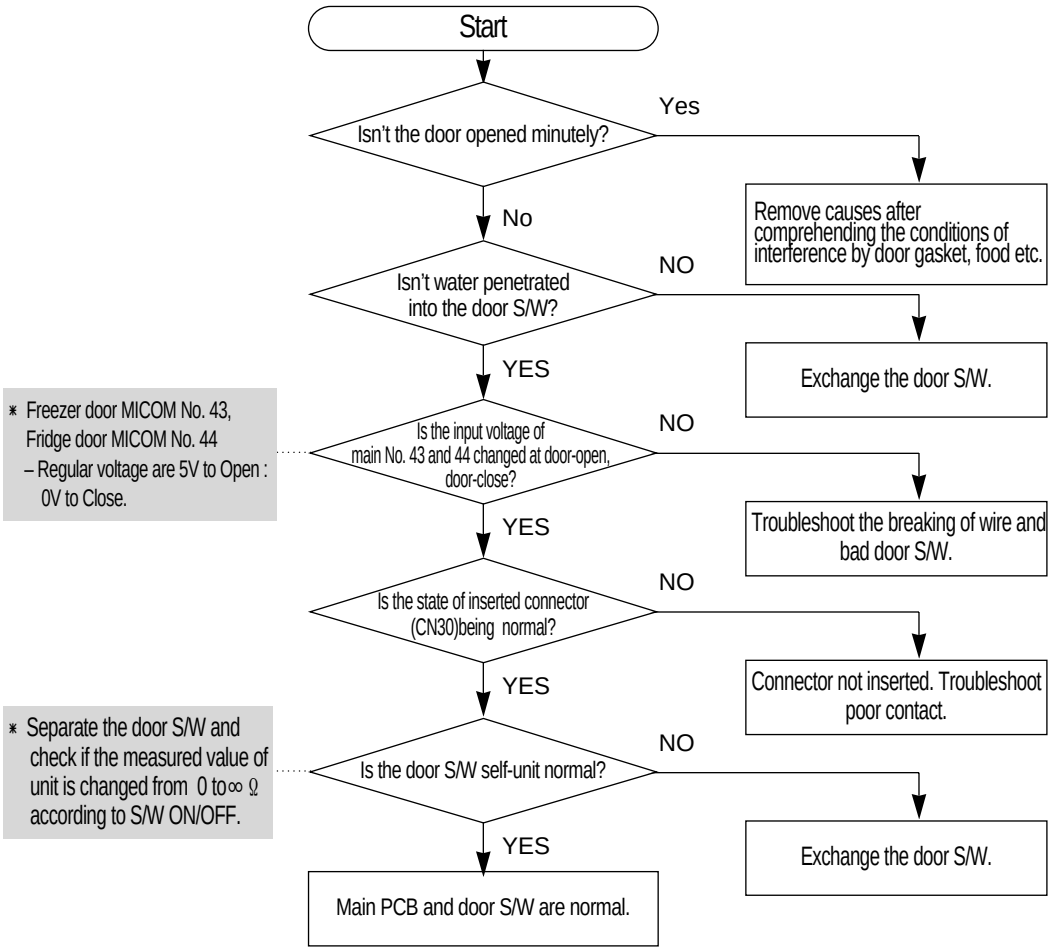

Start
Was the Main – PCB connector(CN31) inserted correctly?
NO
A bad contact or connector missing?
YES
Is the ambient temperature sensor normal?
NO
Exchange the temperature sensor.
YES
Is the input of voltage to MICOM pin No. 63 normal?
NO
Check the iced solder and short of main-PCB.
YES
No trouble with PCB and temperature sensor. Recheck the contact failure of connector.
* See Ref. 4 (descriptions of circuit operation, and how to check temperature sensor in the manual.)

2) If the temperature sensor of F and R room has trouble

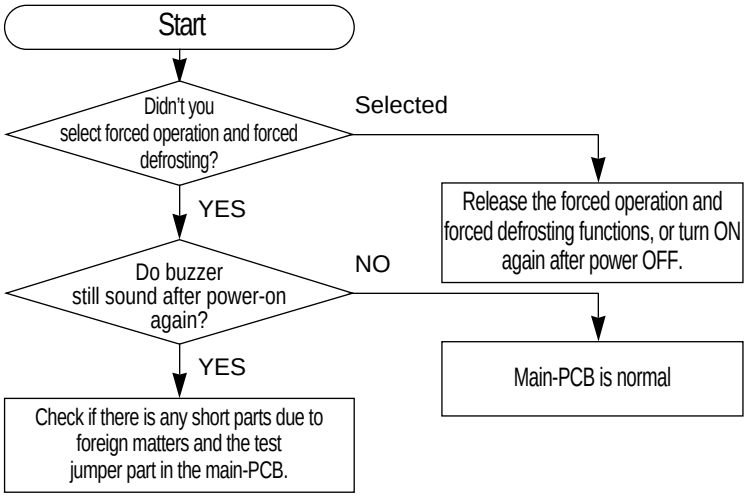

Start
Is the unit of Fridge's temperature sensor normal?
NO
Exchange the temperature sensor.
YES
Was the Main – PCB connector(CN30) inserted correctly?
NO
Troubleshoot a bad contact or missing of connector.
YES
Is the sequence of insertion of connector(CN30) wire identical to the circuit diagram?
NO
Modify the wrong configuration of connector wire -in case of being not inserted or incorrectly inserted - to be coincided with the circuit diagram.
YES
Is the input voltage to MICOM pin No. 59 normal?
NO
Check if the iced solder of main PCB is short.
YES
No trouble with PCB and temperature sensor. Recheck the connector for an error of contact.
* See Ref.4 (descriptions of circuit operation, and how to check temperature sensor in the manual.)
* For sensor resistance per temperature, make use of the resistance values from Ref. 4 and 5.

11-5) If alarm sound

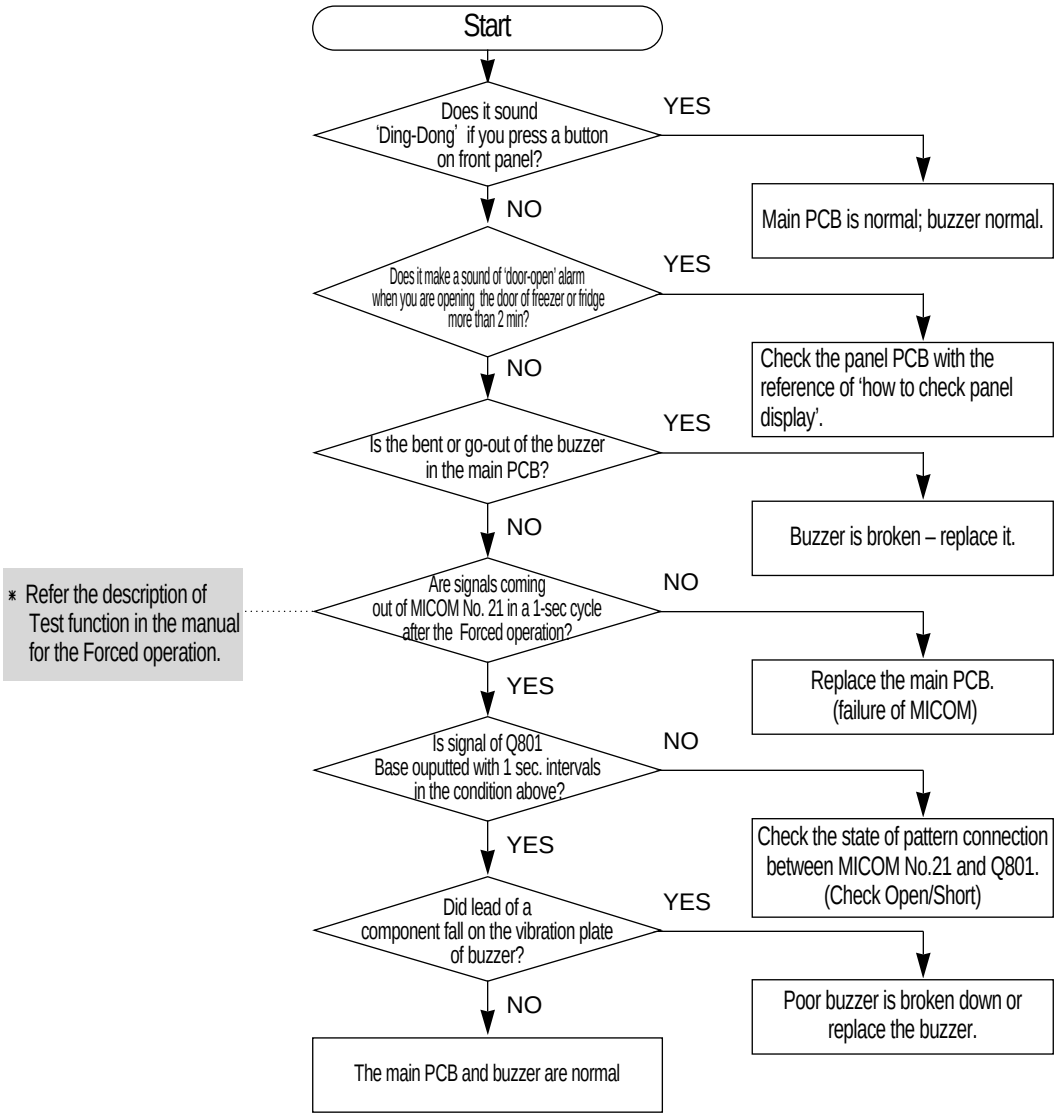
1) If “Ding-Dong” sounds continuously


Start
Isn't the door opened minutely?
Yes
Remove causes after comprehending the conditions of interference by door gasket, food etc.
No
Isn't water penetrated into the door S/W?
NO
Exchange the door S/W.
YES
* Freezer door MICOM No. 43, Fridge door MICOM No. 44 – Regular voltage are 5V to Open : 0V to Close.
Is the input voltage of main No. 43 and 44 changed at door-open, door-close?
NO
Troubleshoot the breaking of wire and bad door S/W.
YES
Is the state of inserted connector (CN30)being normal?
NO
Connector not inserted. Troubleshoot poor contact.
YES
* Separate the door S/W and check if the measured value of unit is changed from 0 to∞ Ω according to S/W ON/OFF.
Is the door S/W self-unit normal?
NO
Exchange the door S/W.
YES
Main PCB and door S/W are normal.

2) If “Beep” sounds continuously

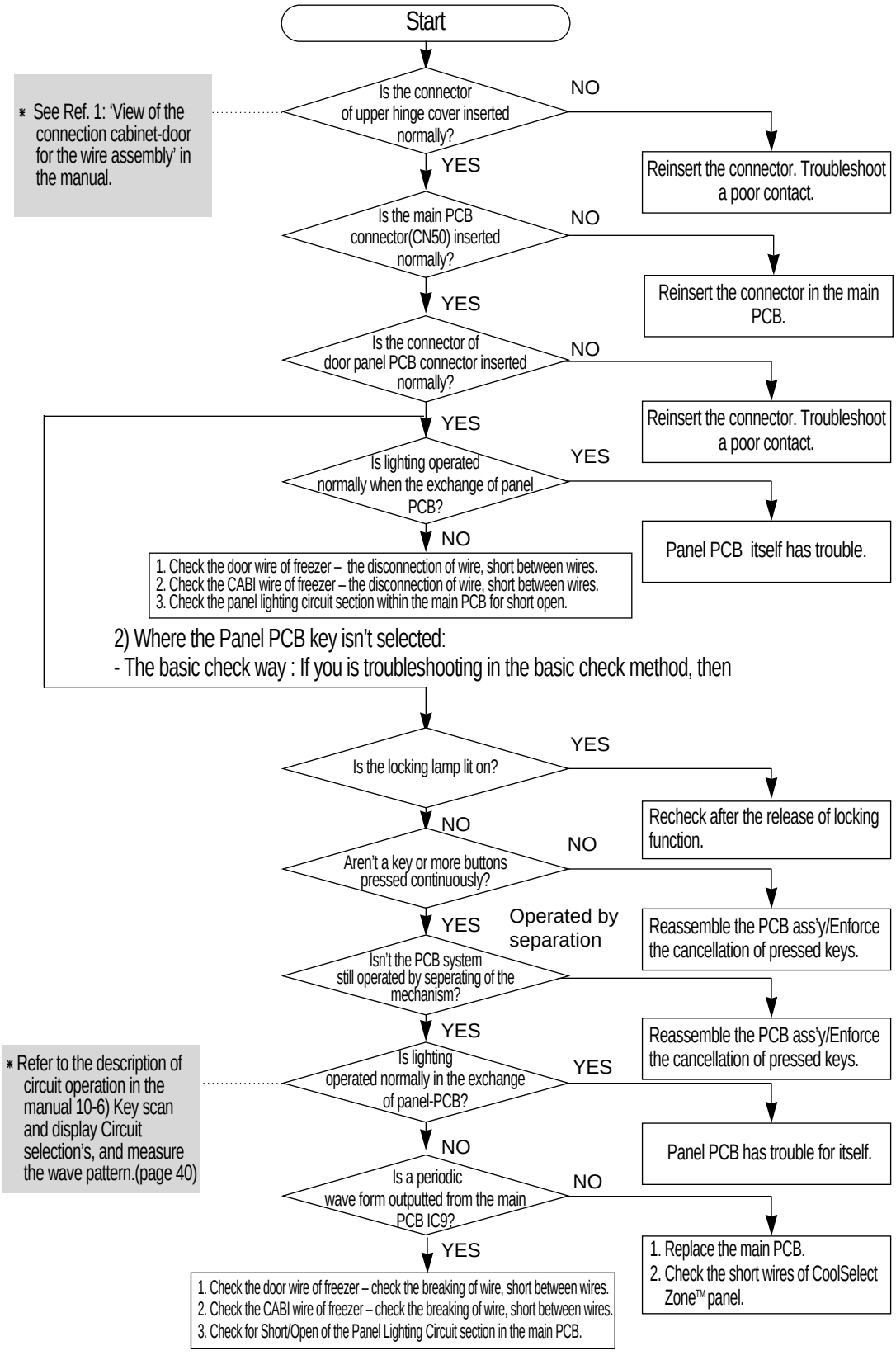

Start
Didn't you select forced operation and forced defrosting?
Selected
Release the forced operation and forced defrosting functions, or turn ON again after power OFF.
YES
Do buzzer still sound after power-on again?
NO
Main-PCB is normal
YES
Check if there is any short parts due to foreign matters and the test jumper part in the main-PCB.

3) Without sound of buzzer operation


Start
Does it sound 'Ding-Dong' if you press a button on front panel?
YES
Main PCB is normal; buzzer normal.
NO
Does it make a sound of 'door-open' alarm when you are opening the door of freezer or fridge more than 2 min?
YES
Check the panel PCB with the reference of 'how to check panel display'.
NO
Is the bent or go-out of the buzzer in the main PCB?
YES
Buzzer is broken – replace it.
NO
Are signals coming out of MICOM No. 21 in a 1-sec cycle after the Forced operation?
NO
Replace the main PCB. (failure of MICOM)
YES
Is signal of Q801 Base ouputted with 1 sec. intervals in the condition above?
NO
Check the state of pattern connection between MICOM No.21 and Q801. (Check Open/Short)
YES
Did lead of a component fall on the vibration plate of buzzer?
YES
Poor buzzer is broken down or replace the buzzer.
NO
The main PCB and buzzer are normal
* Refer the description of Test function in the manual for the Forced operation.

11-6) If the panel PCB is not working normally:

1) Where lighting of the panel PCB is disabled, or only some lamps are disabled.


Start
Is the connector of upper hinge cover inserted normally?
NO
Reinsert the connector. Troubleshoot a poor contact.
YES
Is the main PCB connector(CN50) inserted normally?
NO
Reinsert the connector in the main PCB.
YES
Is the connector of door panel PCB connector inserted normally?
NO
Reinsert the connector. Troubleshoot a poor contact.
YES
Is lighting operated normally when the exchange of panel PCB?
YES
Panel PCB itself has trouble.
NO
1. Check the door wire of freezer – the disconnection of wire, short between wires.
2. Check the CABI wire of freezer – the disconnection of wire, short between wires.
3. Check the panel lighting circuit section within the main PCB for short open.
* See Ref. 1: 'View of the connection cabinet-door for the wire assembly' in the manual.

2) Where the Panel PCB key isn't selected:

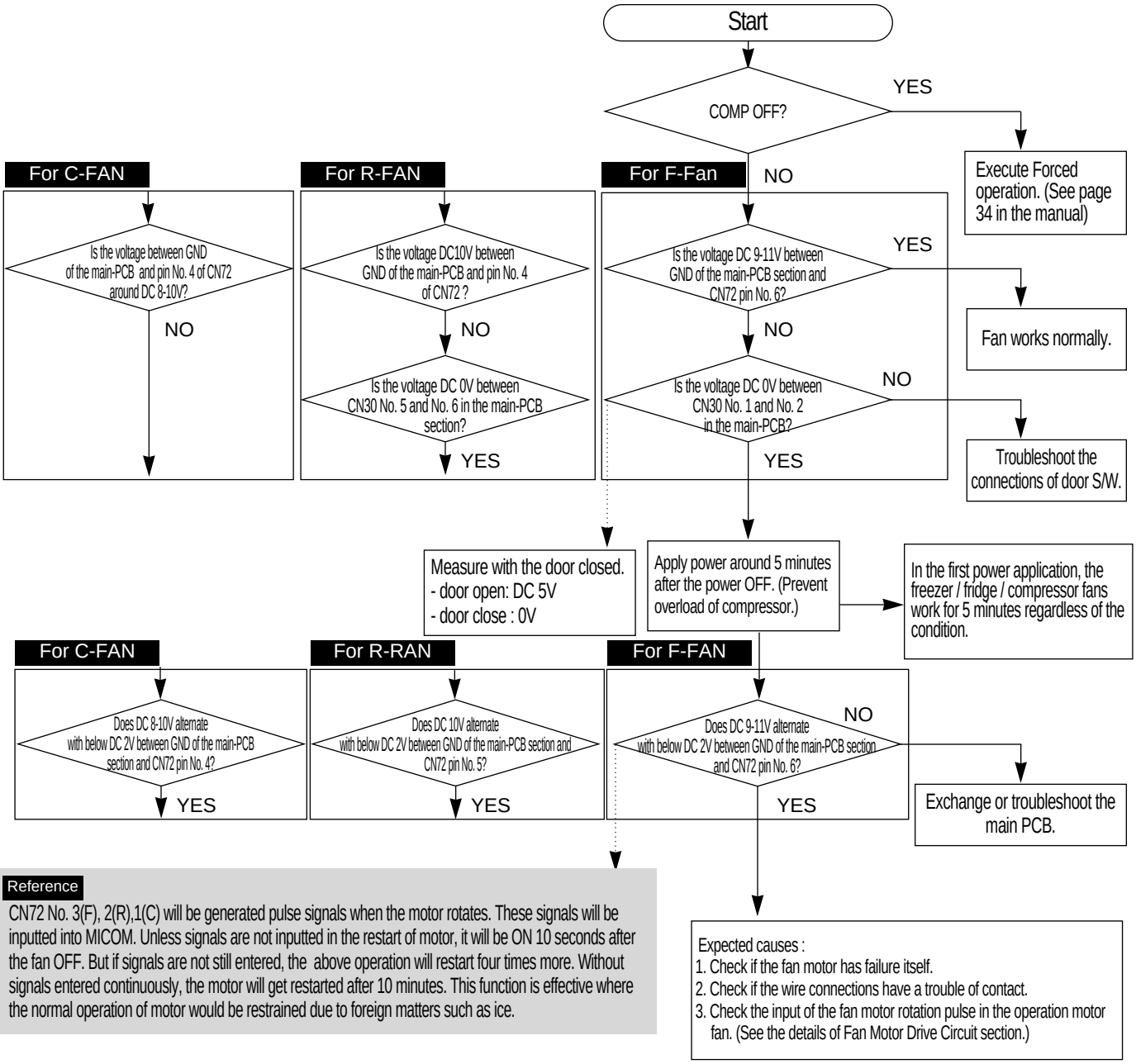
- The basic check way : If you is troubleshooting in the basic check method, then

Is the locking lamp lit on?
YES
Recheck after the release of locking function.
NO
Aren't a key or more buttons pressed continuously?
NO
Reassemble the PCB ass'y/Enforce the cancellation of pressed keys.
YES
Operated by separation
Isn't the PCB system still operated by seperating of the mechanism?
YES
Reassemble the PCB ass'y/Enforce the cancellation of pressed keys.
YES
Is lighting operated normally in the exchange of panel-PCB?
NO
Panel PCB has trouble for itself.
NO
Is a periodic wave form outputted from the main PCB IC9?
NO
1. Replace the main PCB.
2. Check the short wires of CoolSelect Zone™ panel.
YES
1. Check the door wire of freezer – check the breaking of wire, short between wires.
2. Check the CABI wire of freezer – check the breaking of wire, short between wires.
3. Check for Short/Open of the Panel Lighting Circuit section in the main PCB.
* Refer to the description of circuit operation in the manual 10-6) Key scan and display Circuit selection's, and measure the wave pattern.(page 40)

11-7) If fan doesn't work:

Reference

- The refrigerator has been applied with the BLDC fan motor. For RS2533, R room Fan is AC motor used. The BLDC motor is driven by DC 8-12V.
- Under the normal condition of COMP ON, it is operated together with F-FAN motor. With operation of the CoolSelect Zone™ function, the F-Fan motor may do not work. If the door is opened and closed once at a high ambient temperature, the BLDC motor would be operated after a 1-minute or longer delay. Therefore, you' re advised not to take it for an error.
- When the refrigerator is open, the freezer fan motor will also stop working simultaneously with the fan motor. (for the purpose of performance improvement).


Start
COMP OFF?
YES
Execute Forced operation. (See page 34 in the manual)
NO
For C-FAN
Is the voltage between GND of the main-PCB and pin No. 4 of CN72 around DC 8-10V?
NO
For R-FAN
Is the voltage DC10V between GND of the main-PCB and pin No. 4 of CN72 ?
NO
Is the voltage DC 0V between CN30 No. 5 and No. 6 in the main-PCB section?
YES
For F-Fan
Is the voltage DC 9-11V between GND of the main-PCB section and CN72 pin No. 6?
YES
NO
Fan works normally.
Is the voltage DC 0V between CN30 No. 1 and No. 2 in the main-PCB?
NO
YES
Troubleshoot the connections of door S/W.
Measure with the door closed.
- door open: DC 5V
- door close : 0V
Apply power around 5 minutes after the power OFF. (Prevent overload of compressor.)
In the first power application, the freezer / fridge / compressor fans work for 5 minutes regardless of the condition.
For C-FAN
Does DC 8-10V alternate with below DC 2V between GND of the main-PCB section and CN72 pin No. 4?
YES
For R-RAN
Does DC 10V alternate with below DC 2V between GND of the main-PCB section and CN72 pin No. 5?
YES
For F-FAN
Does DC 9-11V alternate with below DC 2V between GND of the main-PCB section and CN72 pin No. 6?
NO
YES
Exchange or troubleshoot the main PCB.

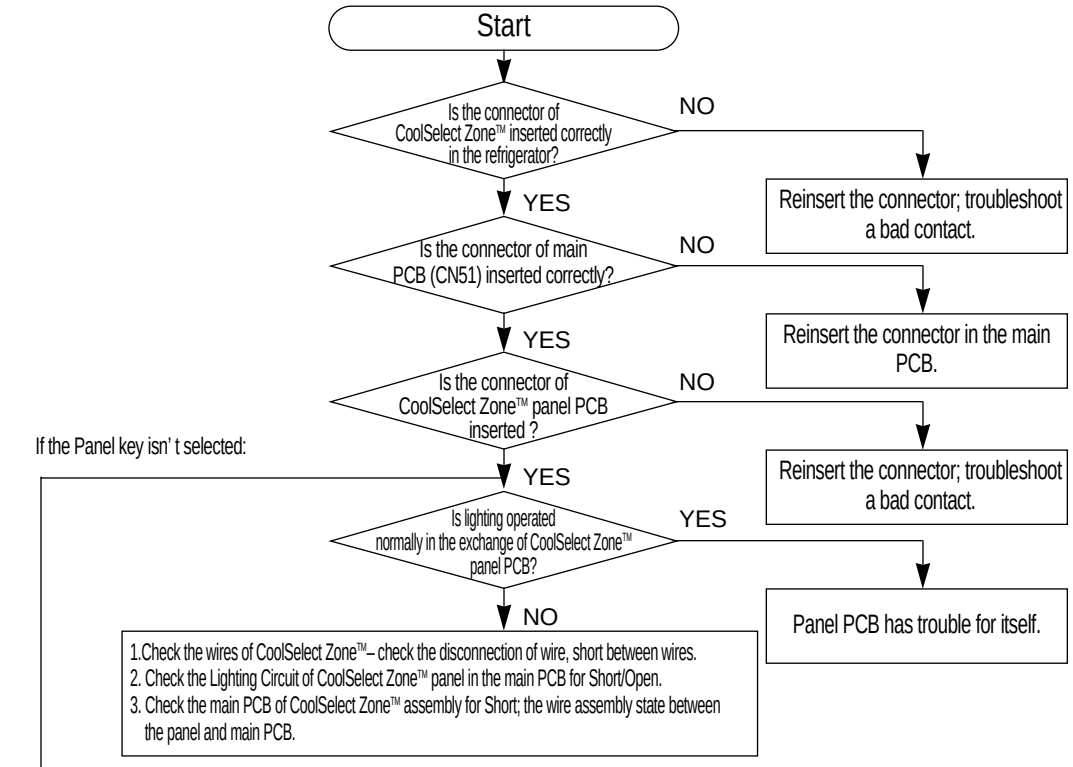
Reference

CN72 No. 3(F), 2(R),1(C) will be generated pulse signals when the motor rotates. These signals will be inputted into MICOM. Unless signals are not inputted in the restart of motor, it will be ON 10 seconds after the fan OFF. But if signals are not still entered, the above operation will restart four times more. Without signals entered continuously, the motor will get restarted after 10 minutes. This function is effective where the normal operation of motor would be restrained due to foreign matters such as ice.

Expected causes :
1. Check if the fan motor has failure itself.
2. Check if the wire connections have a trouble of contact.
3. Check the input of the fan motor rotation pulse in the operation motor fan. (See the details of Fan Motor Drive Circuit section.)

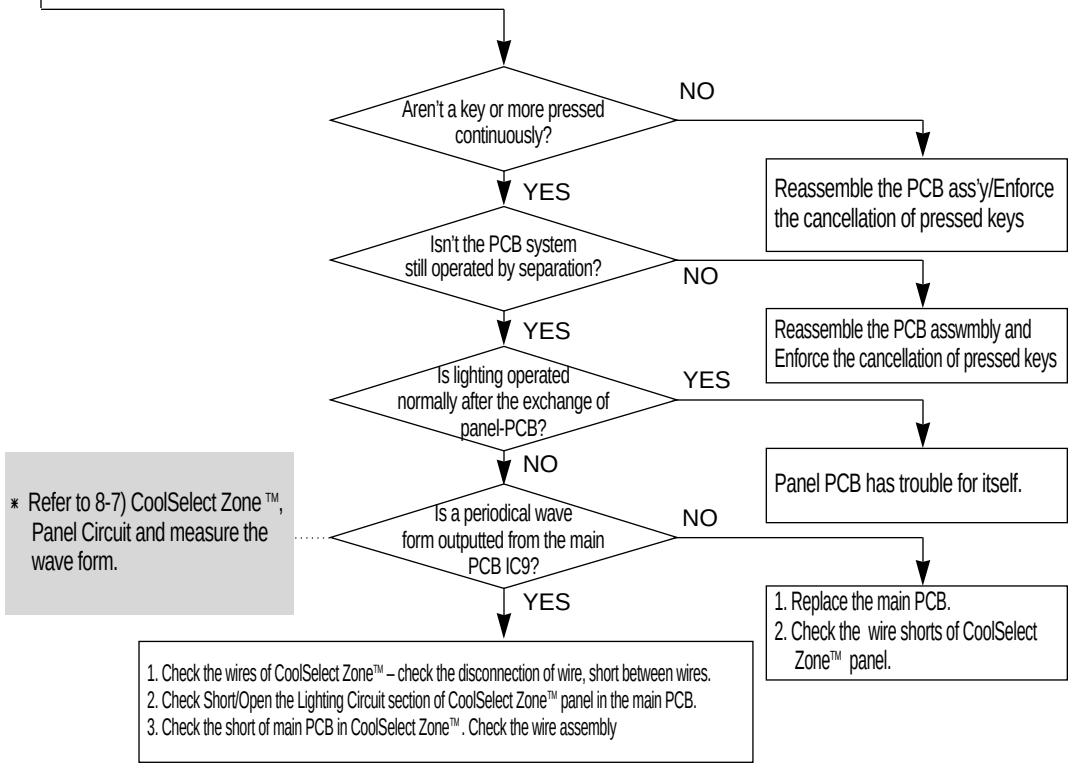
11-8) If CoolSelect Zone™ isn't operated normally

1) If the lamp of CoolSelect Zone™ is not lit.


Start
Is the connector of CoolSelect Zone™ inserted correctly in the refrigerator?
NO
Reinsert the connector; troubleshoot a bad contact.
YES
Is the connector of main PCB (CN51) inserted correctly?
NO
Reinsert the connector in the main PCB.
YES
Is the connector of CoolSelect Zone™ panel PCB inserted ?
NO
Reinsert the connector; troubleshoot a bad contact.
If the Panel key isn' t selected:
YES
Is lighting operated normally in the exchange of CoolSelect Zone™ panel PCB?
YES
Panel PCB has trouble for itself.
NO
1.Check the wires of CoolSelect Zone™– check the disconnection of wire, short between wires.
2. Check the Lighting Circuit of CoolSelect Zone™ panel in the main PCB for Short/Open.
3. Check the main PCB of CoolSelect Zone™ assembly for Short; the wire assembly state between the panel and main PCB.

2) If the Panel PCB key isn't selected:

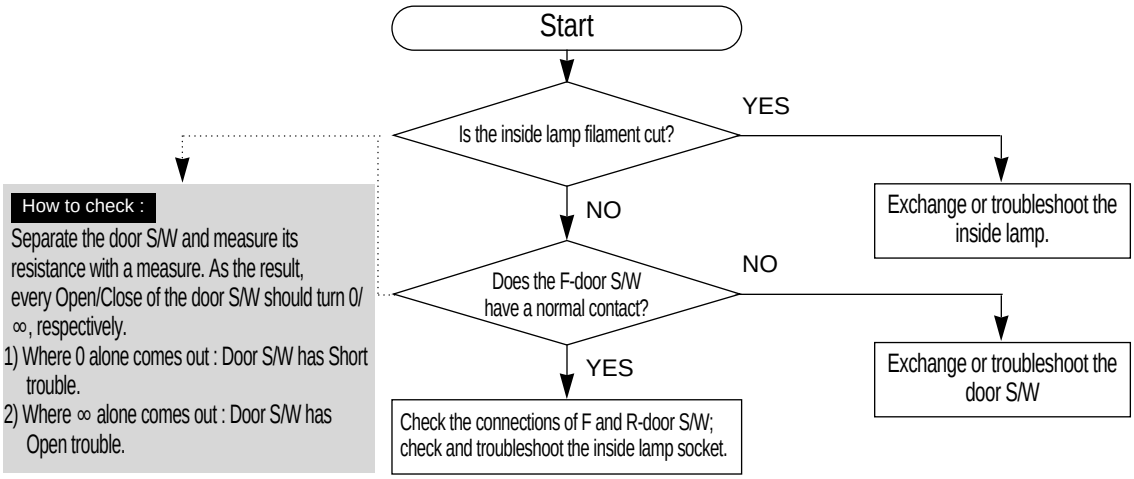
- The basic method is applied to check – if you fail in troubleshooting after above the execution, then


Aren't a key or more pressed continuously?
NO
Reassemble the PCB ass'y/Enforce the cancellation of pressed keys
YES
Isn't the PCB system still operated by separation?
NO
Reassemble the PCB asswmbly and Enforce the cancellation of pressed keys
YES
Is lighting operated normally after the exchange of panel-PCB?
YES
Panel PCB has trouble for itself.
NO
* Refer to 8-7) CoolSelect Zone ™, Panel Circuit and measure the wave form.
Is a periodical wave form outputted from the main PCB IC9?
NO
1. Replace the main PCB.
2. Check the wire shorts of CoolSelect Zone™ panel.
YES
1. Check the wires of CoolSelect Zone™ – check the disconnection of wire, short between wires.
2. Check Short/Open the Lighting Circuit section of CoolSelect Zone™ panel in the main PCB.
3. Check the short of main PCB in CoolSelect Zone™. Check the wire assembly

11-9) If the lamps of freezer / refrigerator does not light.

⚠ Caution!

1. When you are exchanging the lamp of freezer, please exchange or troubleshoot it with the power OFF to avoid an electric shock.
2. Please keep in mind you do not get burnt by the excessive heating of an incandescent light bulb.


Start
Is the inside lamp filament cut?
YES
NO
Exchange or troubleshoot the inside lamp.
Does the F-door S/W have a normal contact?
NO
YES
Exchange or troubleshoot the door S/W
Check the connections of F and R-door S/W; check and troubleshoot the inside lamp socket.
How to check :
Separate the door S/W and measure its resistance with a measure. As the result, every Open/Close of the door S/W should turn 0/∞, respectively.
1) Where 0 alone comes out : Door S/W has Short trouble.
2) Where ∞ alone comes out : Door S/W has Open trouble.

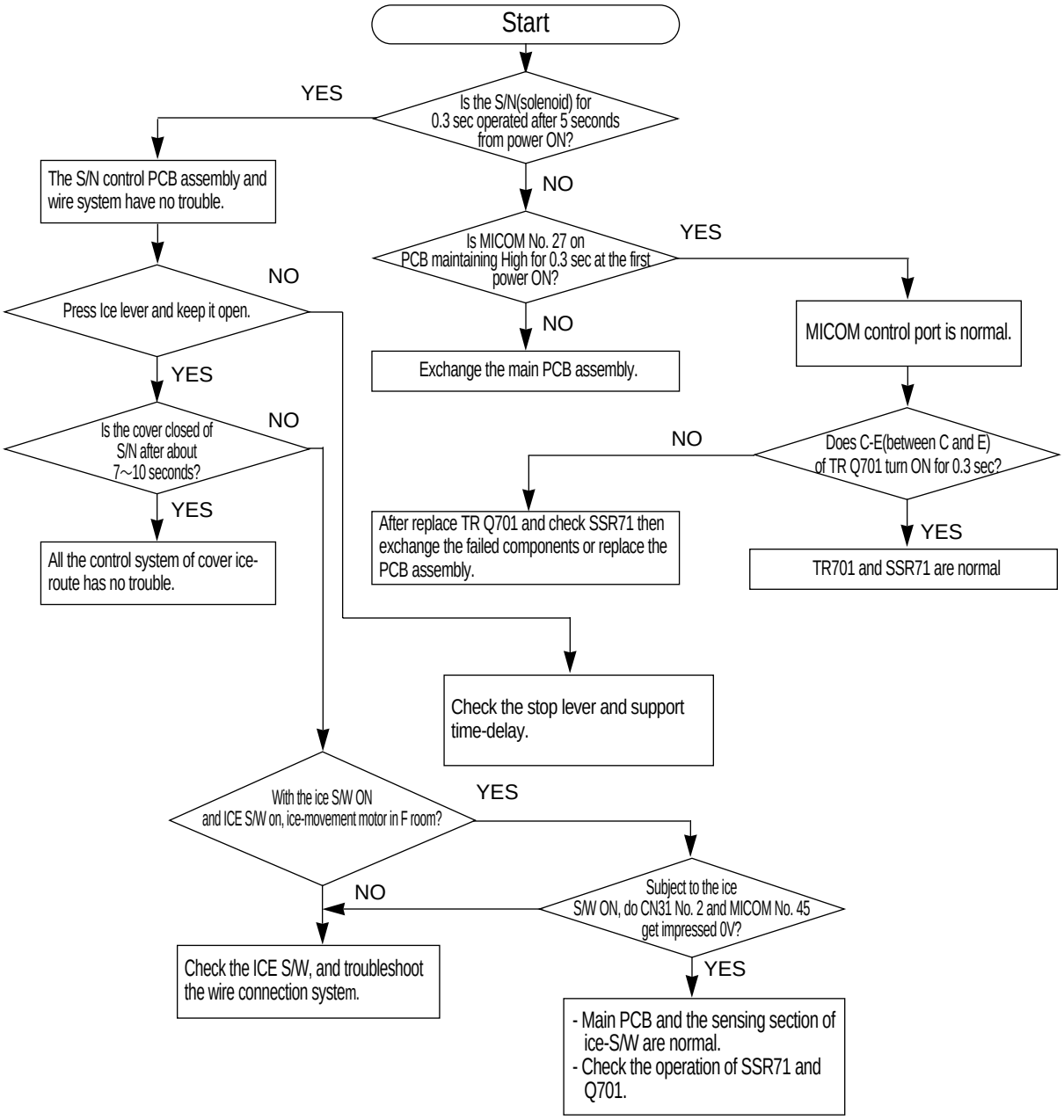
Reference

If the door is opened, then the contact of door S/W is opened and MICOM gets applied 5V to finally sense Open. If 5V has been sensed over two minutes afterwards, then an Door-Open alarm will sound 'Ding-Dong' for 10 seconds in a one-minute cycle. For that reason, if the door S/W has failure, the refrigerator can make a "Ding-Dong" sound per a one-minute cycle. Please note step for its service!

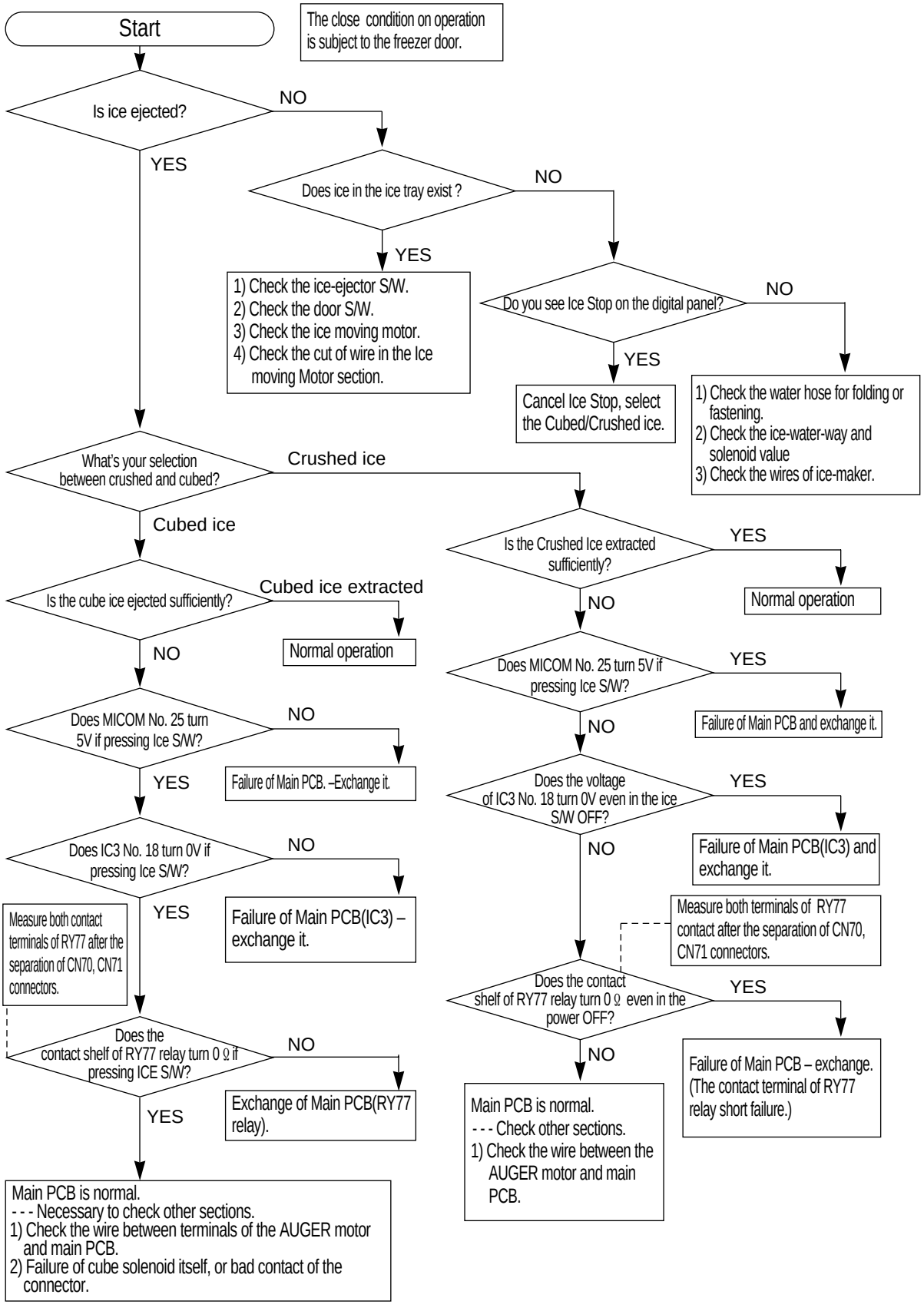
11-10) If the solenoid in the ice-chute cover doesn't work :

Preliminary check

1) Check if the solenoid is unconditionally operated for 0.3 sec, independent of the Open/Close condition of cover ice-route, after a lapse of about 5 seconds from power ON. (Before installation, the cancellation of cover ice-route open is enabled.)
2) Check if the connector in upper hinge section is hook-up correctly.

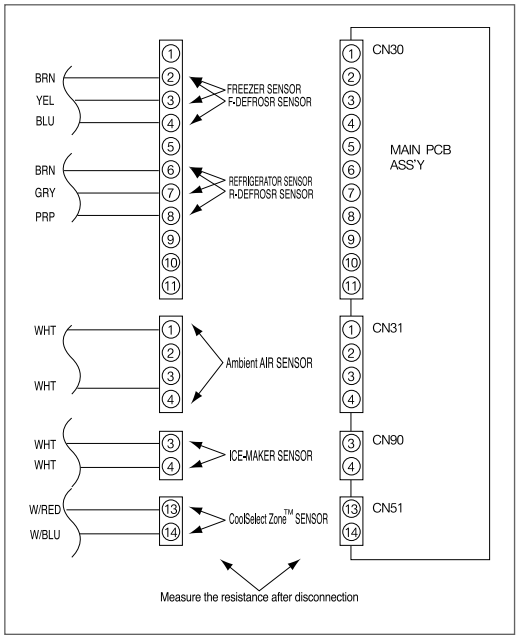

Start
Is the S/N(solenoid) for 0.3 sec operated after 5 seconds from power ON?
YES
NO
The S/N control PCB assembly and wire system have no trouble.
Is MICOM No. 27 on PCB maintaining High for 0.3 sec at the first power ON?
YES
NO
Exchange the main PCB assembly.
MICOM control port is normal.
Press Ice lever and keep it open.
NO
YES
Is the cover closed of S/N after about 7~10 seconds?
NO
YES
All the control system of cover ice-route has no trouble.
Does C-E(between C and E) of TR Q701 turn ON for 0.3 sec?
NO
YES
After replace TR Q701 and check SSR71 then exchange the failed components or replace the PCB assembly.
TR701 and SSR71 are normal
Check the stop lever and support time-delay.
With the ice S/W ON and ICE S/W on, ice-movement motor in F room?
YES
NO
Subject to the ice S/W ON, do CN31 No. 2 and MICOM No. 45 get impressed 0V?
YES
Check the ICE S/W, and troubleshoot the wire connection system.
- Main PCB and the sensing section of ice-S/W are normal.
- Check the operation of SSR71 and Q701.

11-11) If Crushed Ice/Cubed Ice doesn't work properly:


Start
The close condition on operation is subject to the freezer door.
Is ice ejected?
NO
YES
Does ice in the ice tray exist ?
NO
YES
1) Check the ice-ejector S/W.
2) Check the door S/W.
3) Check the ice moving motor.
4) Check the cut of wire in the Ice moving Motor section.
Do you see Ice Stop on the digital panel?
NO
YES
Cancel Ice Stop, select the Cubed/Crushed ice.
1) Check the water hose for folding or fastening.
2) Check the ice-water-way and solenoid value
3) Check the wires of ice-maker.
What's your selection between crushed and cubed?
Crushed ice
Cubed ice
Is the cube ice ejected sufficiently?
Cubed ice extracted
Normal operation
NO
Does MICOM No. 25 turn 5V if pressing Ice S/W?
NO
Failure of Main PCB. –Exchange it.
YES
Does IC3 No. 18 turn 0V if pressing Ice S/W?
NO
Failure of Main PCB(IC3) – exchange it.
YES
Measure both contact terminals of RY77 after the separation of CN70, CN71 connectors.
Does the contact shelf of RY77 relay turn 0 Ω if pressing ICE S/W?
NO
Exchange of Main PCB(RY77 relay).
YES
Main PCB is normal.
- - - Necessary to check other sections.
1) Check the wire between terminals of the AUGER motor and main PCB.
2) Failure of cube solenoid itself, or bad contact of the connector.
Is the Crushed Ice extracted sufficiently?
YES
Normal operation
NO
Does MICOM No. 25 turn 5V if pressing Ice S/W?
YES
Failure of Main PCB and exchange it.
NO
Does the voltage of IC3 No. 18 turn 0V even in the ice S/W OFF?
YES
Failure of Main PCB(IC3) and exchange it.
NO
Measure both terminals of RY77 contact after the separation of CN70, CN71 connectors.
Does the contact shelf of RY77 relay turn 0 Ω even in the power OFF?
YES
Failure of Main PCB – exchange. (The contact terminal of RY77 relay short failure.)
NO
Main PCB is normal.
- - - Check other sections.
1) Check the wire between the AUGER motor and main PCB.

Appendix Ⅰ(Reference for circuit diagnostics)

Ref. 1) Check sensors

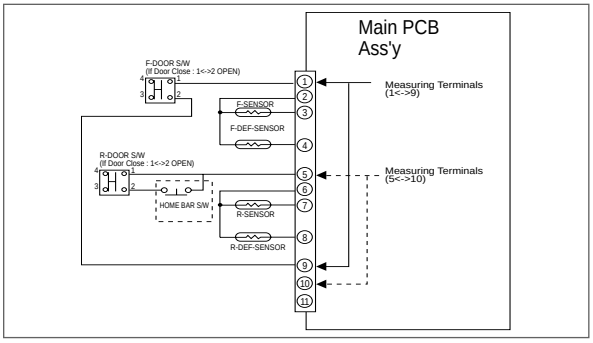


Disconnect the connector from the Main PCB, than measure the resistance of the following sensors.

1. Check the resistance the Freezer sensor cn30 between the no. 2 and 3.
2. Check the resistance the Fridge Room sensor cn30 between the no. 6 and 7.
3. Check the resistance the F Defrosting sensor cn30 between the no. 2 and 4.
4. Check the resistance the R Defrosting sensor cn30 between the no. 6 and 8.
5. Check the resistance between the no. ① and ④ the ambient Air sensor cn31.
6. Check the resistance between the no. ③ and ④of the Ice-Maker sensor cn90.
7. Check the resistance between the no. ⑬ and ⑭ of the CoolSelect Zone™ sensor cn51.
8. Decide the sensor by comparing above resistances to the temperature of each sensor with the conversion table of sensor resistance and voltage from the reference temperature of Ref. 6 on this manual.

※ When the resistance is ∞ Ω or 0 Ω ,check the connection of electric wire and sensorconnector.

Ref. 2) Check Door S/W



Check with power applied.
The Door S/W is a two-contact switch. One detects Door Open/Close with DC 5V at the PCB and the other one turns on/off the room light.

(R-Room Light)

1 . Check if the light comes on by opening the R-Door. If it lights up, check if the light goes off by pressing down the Door S/W with the door open.
If there is any problem, check the R-Door S/W.

(R-Door Open Sensing Part of MAIN PCB)

1 . Place the positive(+) terminal on CN30 No.⑤ and the negative(-) on No.⑩.And,check the voltage.
2. When the voltage is DC 5V with the door open, it is normal.
3. When the voltage is DC 0V with the door closed, it is normal. If there is any problem, check the Door S/W and the wire connections.

(F-Room Light)

1 . Check if the light comes on by opening the F-Door. If it lights up, check if the light goes off by pressing down the Door S/W with the door open.
If there is any problem, check the F-Door S/W.

(F-Door Open Sensing Part of MAIN PCB)

1 . Place the positive(+) terminal on CN30 No.① and the negative(-) on No.⑨. And,checkthe voltage.
2. When the voltage is DC 5V with the door open, it is normal.
3. When the voltage is DC 0V with the door closed, it is normal. If there is any problem, check the Door S/W and the wire connections.

Appendix Ⅰ(Reference for circuit diagnostics)

Ref. 3) Table of temperature sensor according to resistance and voltage conversion.

The input voltage to the MICOM PORT could be different by a hardware. This is a table based on the voltage using the 10kohm-F.
MICOM PORT voltage when the sensor is open: about DC 5V(Vcc LEVEL)
MICOM PORT voltage when the sensor is shorted: about DC 0V(Ground LEVEL)

Temp.(℉)	Resistance(㏀)	Voltage(V)
-43.6	98.870	4.541
-41.8	93.700	4.518
-40.0	88.850	4.494
-38.2	84.150	4.469
-36.4	79.800	4.443
-34.6	75.670	4.416
-32.8	71.800	4.389
-31	68.150	4.360
-29.2	64.710	4.331
-27.4	61.480	4.301
-25.6	58.430	4.269
-23.8	55.550	4.237
-22.0	52.840	4.204
-20.2	50.230	4.170
-18.4	47.770	4.134
16.6	45.450	4.098
-14.8	43.260	4.061
-13.0	41.190	4.023
-11.2	39.240	3.985
-9.4	37.390	3.945
-7.6	35.650	3.905
-5.8	33.990	3.863
-4.0	32.430	3.822
-2.2	30.920	3.778
-0.4	29.500	3.734
1.4	28.140	3.689
3.2	26.870	3.644
5.0	25.650	3.597
6.8	24.510	3.551
8.6	23.420	3.504
10.4	22.390	3.456

Temp.(℉)	Resistance(㏀)	Voltage(V)
12.2	21.410	3.408
14.0	20.480	3.360
15.8	19.580	3.310
17.6	18.730	3.260
19.4	17.920	3.209
21.2	17.160	3.159
23.0	16.430	3.108
24.8	15.740	3.057
26.6	15.080	3.006
28.4	14.450	2.955
30.2	13.860	2.904
32.0	13.290	2.853
33.8	12.740	2.801
35.6	12.220	2.750
37.4	11.720	2.698
39.2	11.250	2.647
41.0	10.800	2.596
42.8	10.370	2.545
44.6	9.959	2.495
46.4	9.569	2.445
48.2	9.195	2.395
50.0	8.839	2.346
51.8	8.494	2.296
53.6	8.166	2.248
55.4	7.852	2.199
57.2	7.552	2.151
59.0	7.266	2.104
60.8	6.992	2.057
62.6	6.731	2.012
64.4	6.481	1.966
66.2	6.242	1.922

Temp.(℉)	Resistance(㏀)	Voltage(V)
68.0	6.013	1.878
69.8	5.792	1.834
71.6	5.581	1.791
73.4	5.379	1.749
75.2	5.185	1.707
77.0	5.000	1.667
78.8	4.821	1.626
80.6	4.650	1.587
82.4	4.487	1.549
84.2	4.329	1.511
86.0	4.179	1.474
87.8	4.033	1.437
89.6	3.894	1.401
91.4	3.760	1.366
93.2	3.631	1.332
95.0	3.508	1.298
96.8	3.390	1.266
98.6	3.276	1.234
100.4	3.167	1.203
102.2	3.062	1.172
104.0	2.962	1.143
105.8	2.864	1.113
107.6	2.770	1.085
109.4	2.680	1.057
111.2	2.593	1.030
113.0	2.510	1.003
114.8	2.429	0.977
116.6	2.352	0.952
118.4	2.278	0.928
120.2	2.206	0.904

Appendix Ⅰ(Reference for circuit diagnostics)

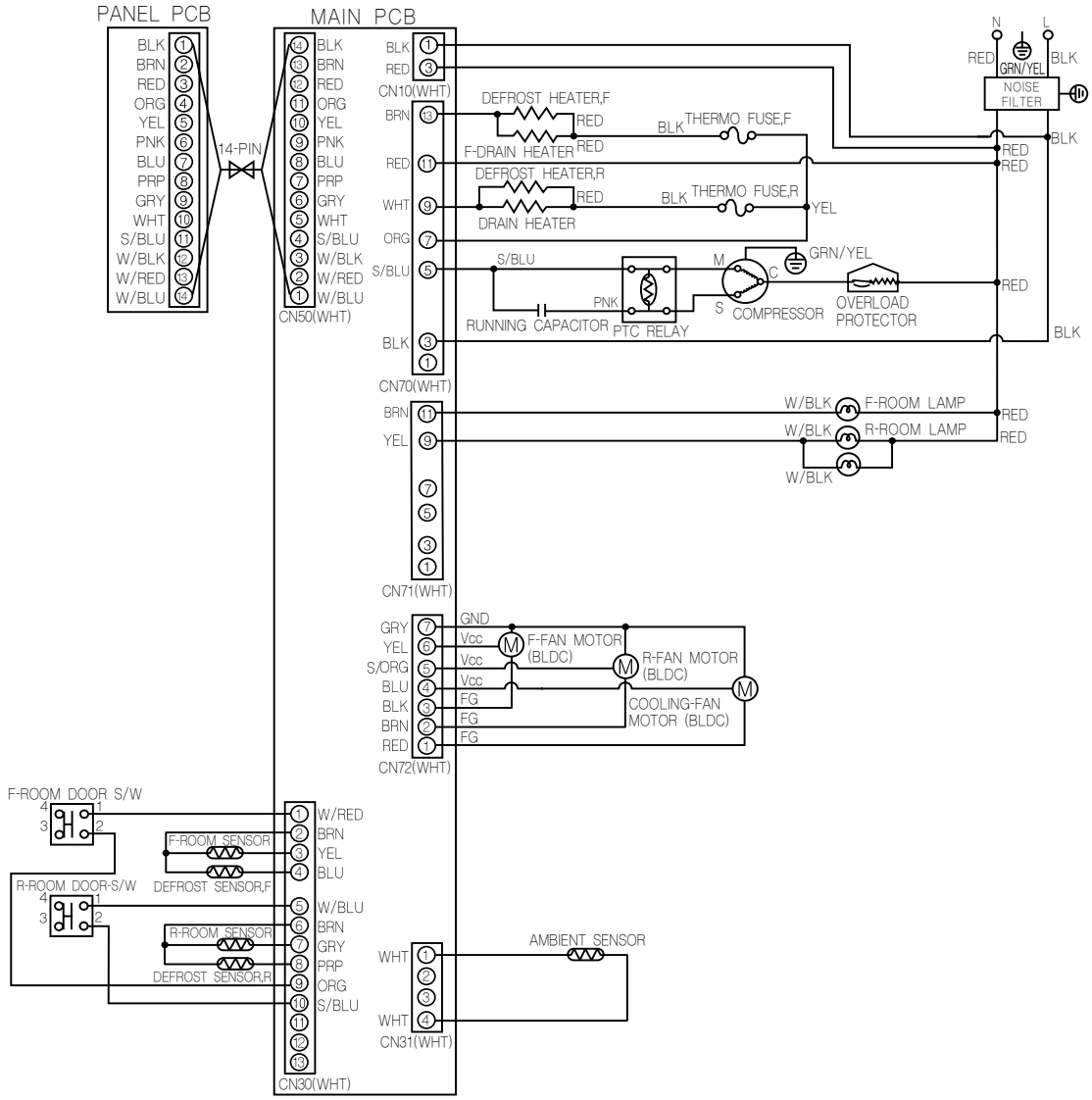
Ref. 4) Service part lists of each circuit board.

NO	CODE-NO	PART NAME	SPECIFCATION	Q'TY
1	DA41-00195A	MAIN PCB ASS'Y	①Basic ②Basic with H/B	1
2	DA41-00195B	MAIN PCB ASS'Y	①Basic with CoolSelectZone™	1
3	DA41-00185A	MAIN PCB ASS'Y	①Dispenser ②Dispenser with H/B	1
4	DA41-00185B	MAIN PCB ASS'Y	①Dispenser with CoolSelectZone™ ②Dispenser with H/B & CoolSelectZone™	1
5	DA41-00103T	MAIN PCB ASS'Y	①Basic ②Basic with H/B	1
6	DA41-00103U	MAIN PCB ASS'Y	①Basic with CoolSelectZone™	1
7	DA41-00173A	MAIN PCB ASS'Y	①Dispenser ②Dispenser with H/B	1
8	DA41-00173B	PANEL PCB ASS'Y	①Dispenser with CoolSelectZone™ ②Dispenser with H/B & CoolSelectZone™	1
9	DA41-00108A	CoolSelectZone™ PCB ASS'Y	①Basic with CoolSelectZone™ ②Dispenser with CoolSelectZone™ ③Dispenser with H/B & CoolSelectZone™	1
10	DA32-00006B	R-DEFROST Sensor	PX-41C	1
11	DA32-00006A	F-DEFROST Sensor	PX-41C	1
12	DA32-10109V	Ambient Temp.Sensor	PX-41C	1
13	DA32-00105U	R-Temp.Sensor	PX-41C	1
		F-Temp.Sensor	PX-41C (Use Only Basic Models)	
14	DA32-10109W	F-Temp.Sensor	PX-41C (Use Only Dispenser Models)	1
15	DA32-10109X	CoolSelectZone™ PCB ASS'Y	PX-41C	
16	3301-000016	FERRIETE CORE (LOCK TYPE)	-	0
17	DA27-00002A	NOISE FILTER	USE ALL MODEL	1

※ The last no. of the code number such as DA41-xxxxx? for the Main PCB-ASS'Y could be changed by MICOM and option.

CIRCUIT DIAGRAM

For Basic Models

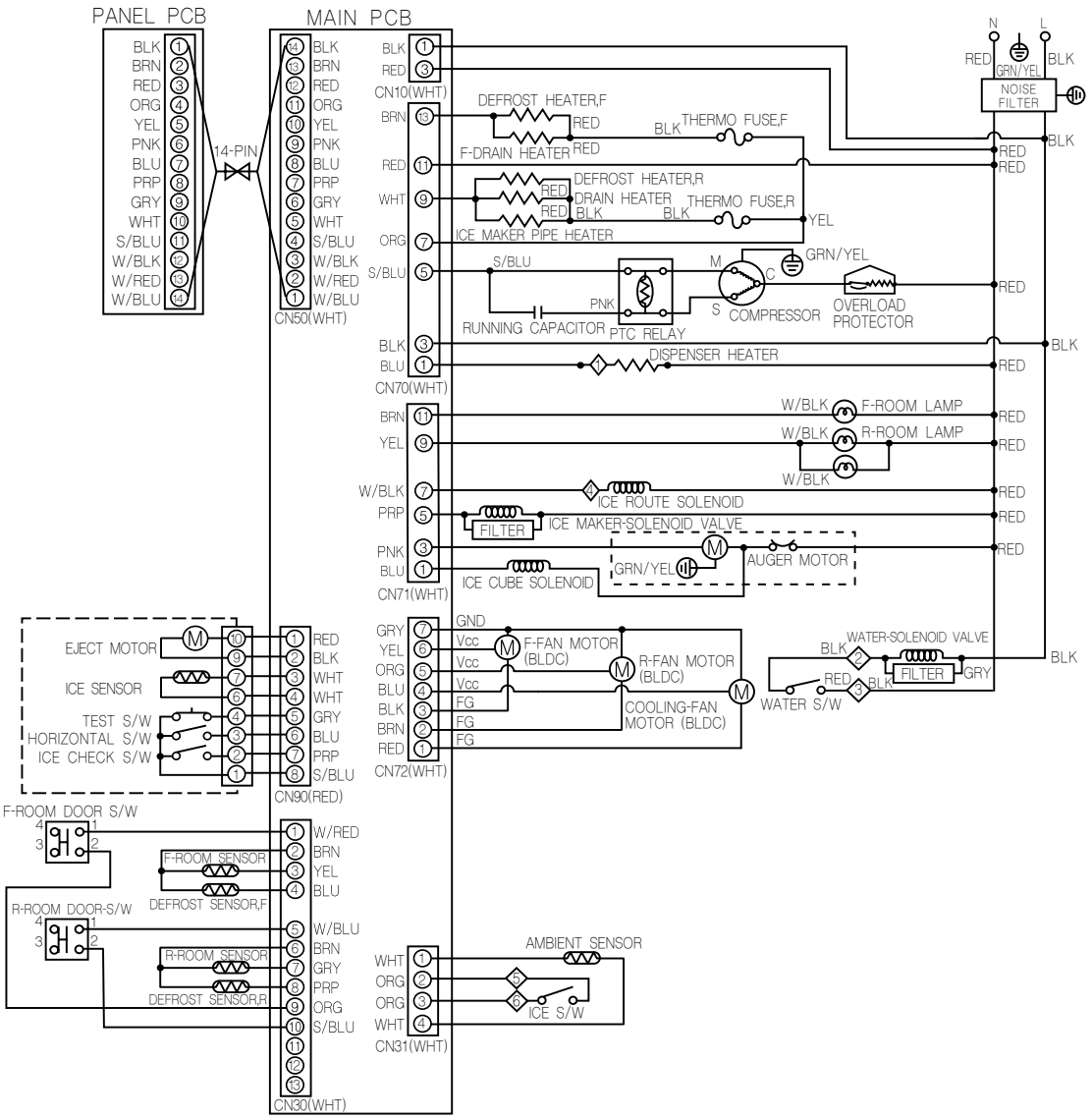


Reference

RED-RED	WHT-WHITE
BLU-BLUE	YEL-YELLOW
ORG-ORANGE	BLK-BLACK
P/BLU-PINK/BLUE	PRP-PURPLE
BRN-BROWN	W/BLK-WHITE/BLACK
PNK-PINK	S/BLU-SKY/BLUE
GRY-GRAY	E-EARTH
W/BLU-WHITE/BLUE	W/RED-WHITE/RED

CIRCUIT DIAGRAM

For Dispenser Models

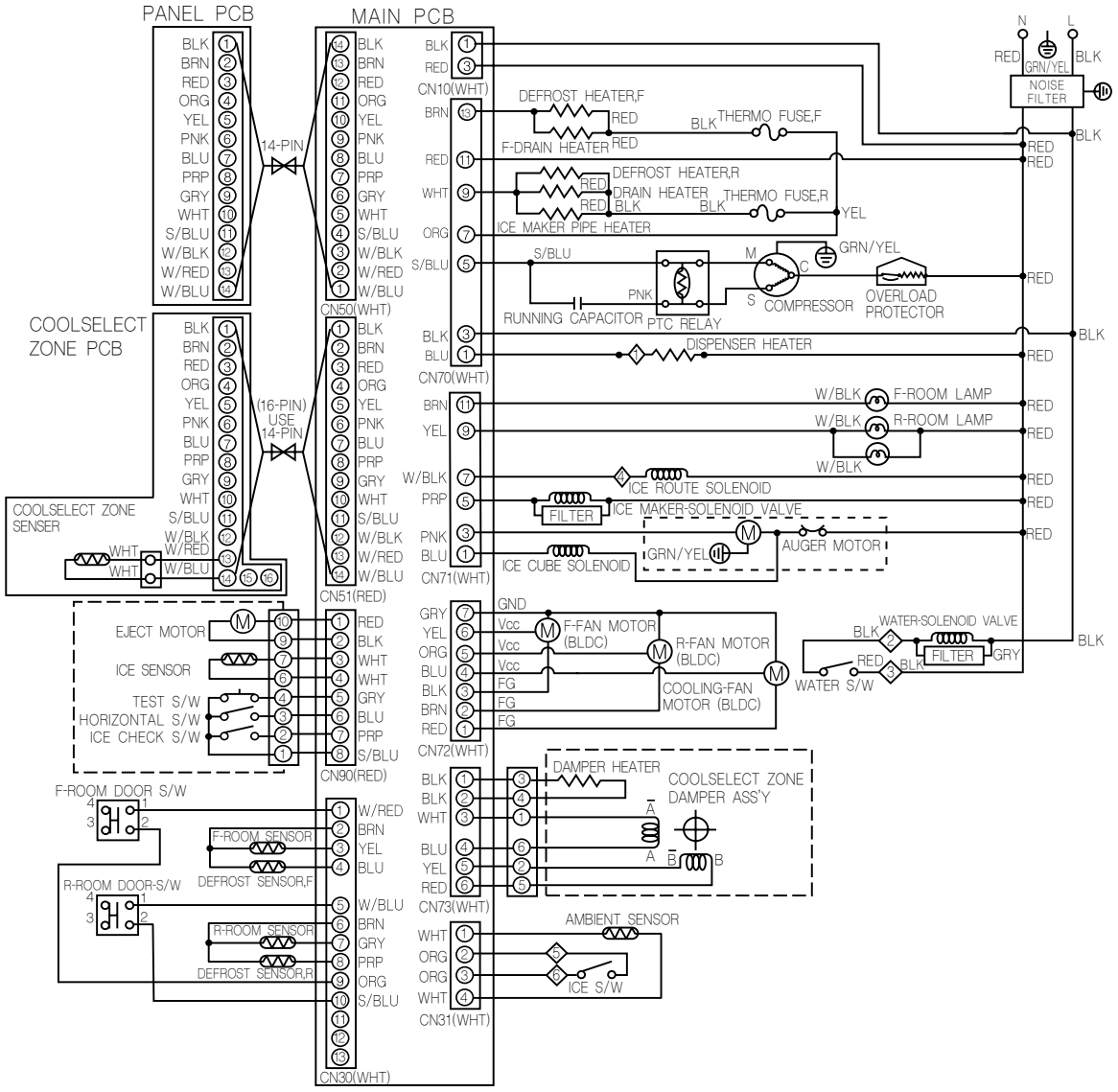


Reference

RED-RED	WHT-WHITE
BLU-BLUE	YEL-YELLOW
ORG-ORANGE	BLK-BLACK
P/BLU-PINK/BLUE	PRP-PURPLE
BRN-BROWN	W/BLK-WHITE/BLACK
PNK-PINK	S/BLU-SKY/BLUE
GRY-GRAY	E-EARTH
W/BLU-WHITE/BLUE	W/RED-WHITE/RED

CIRCUIT DIAGRAM

For Dispenser & CoolSelect Zone™ Models

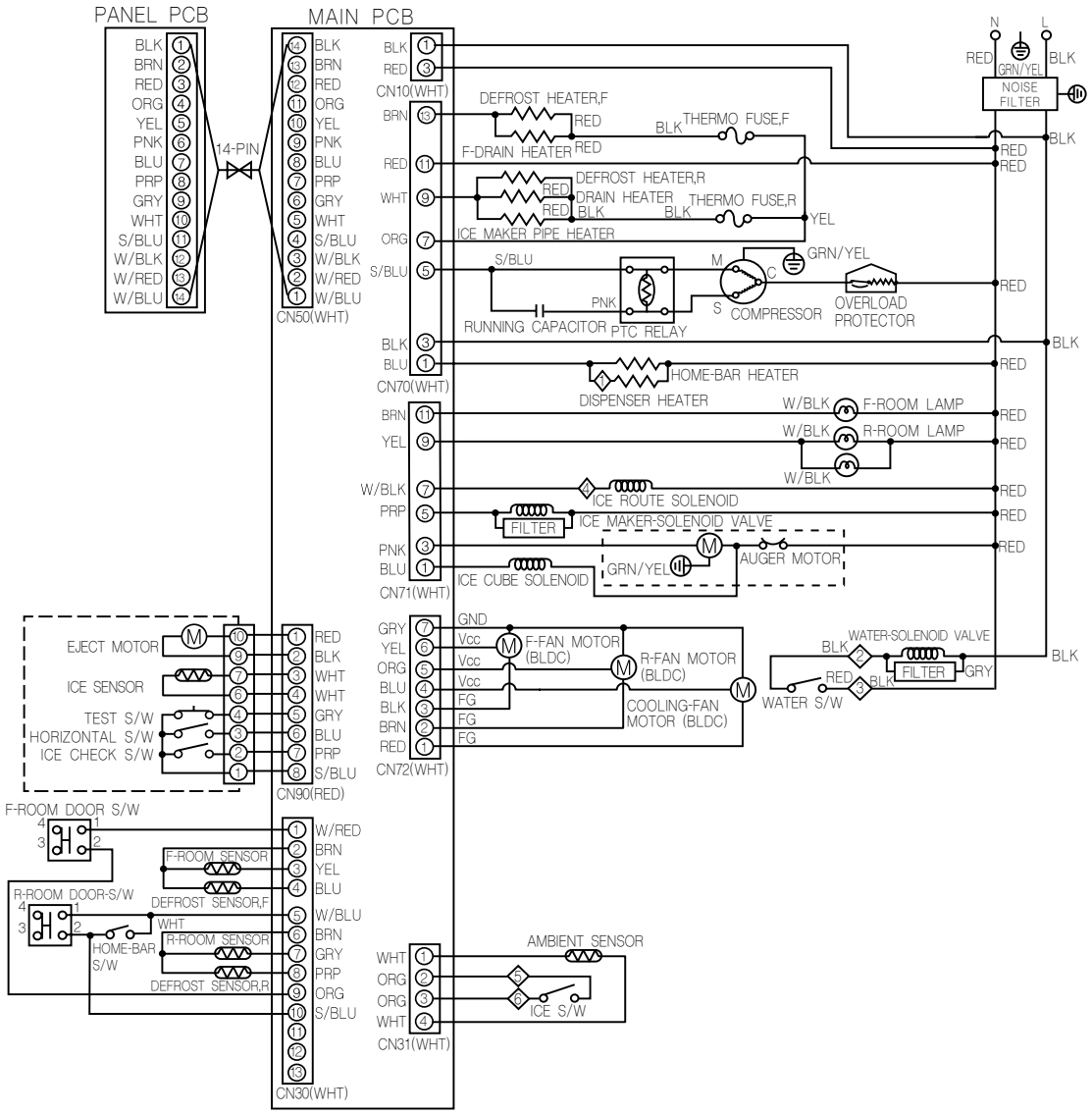


Reference

RED-RED	WHT-WHITE
BLU-BLUE	YEL-YELLOW
ORG-ORANGE	BLK-BLACK
P/BLU-PINK/BLUE	PRP-PURPLE
BRN-BROWN	W/BLK-WHITE/BLACK
PNK-PINK	S/BLU-SKY/BLUE
GRY-GRAY	E-EARTH
W/BLU-WHITE/BLUE	W/RED-WHITE/RED

CIRCUIT DIAGRAM

For Dispenser & Home Bar Models

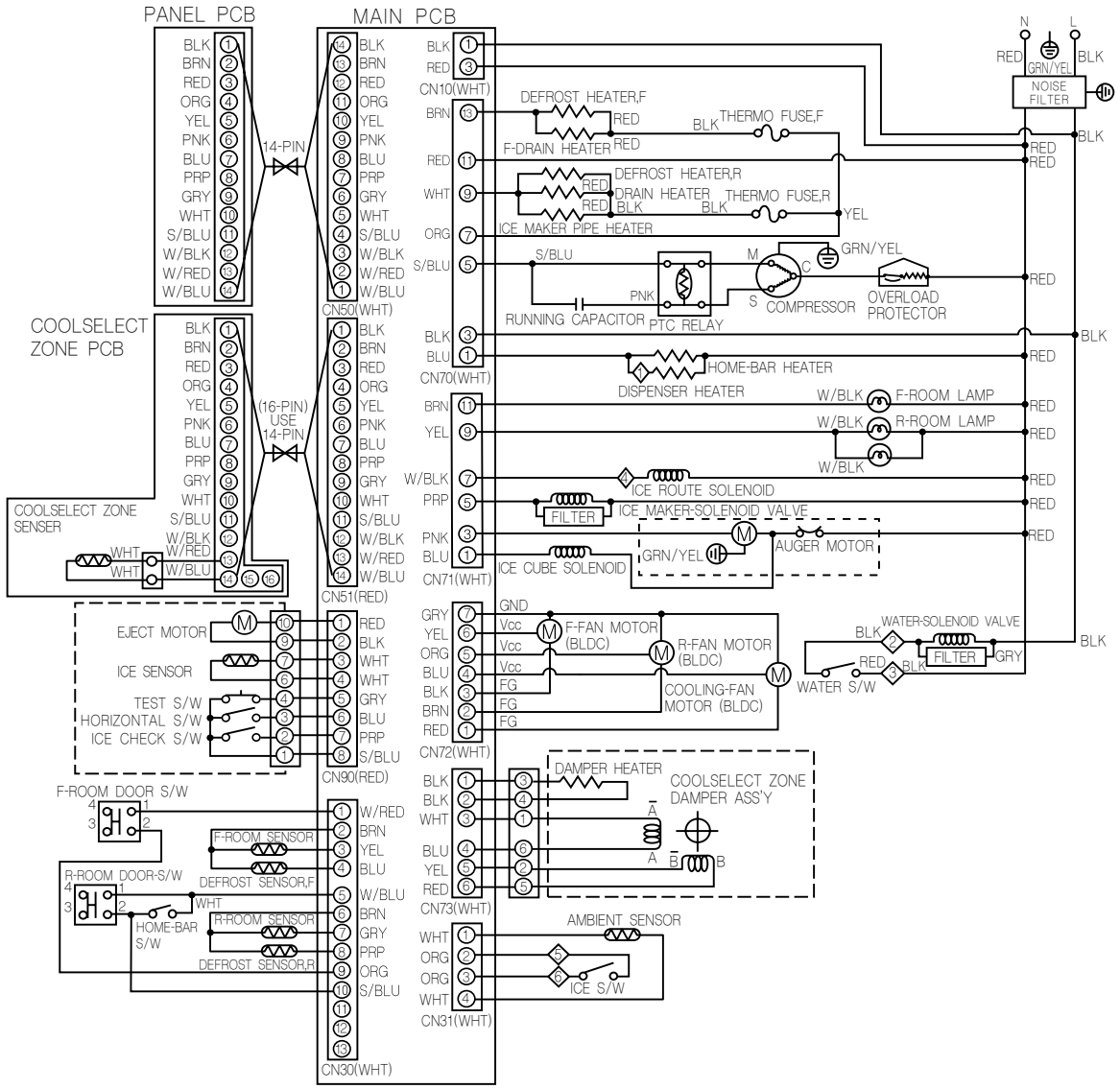


Reference

RED-RED	WHT-WHITE
BLU-BLUE	YEL-YELLOW
ORG-ORANGE	BLK-BLACK
P/BLU-PINK/BLUE	PRP-PURPLE
BRN-BROWN	W/BLK-WHITE/BLACK
PNK-PINK	S/BLU-SKY/BLUE
GRY-GRAY	E-EARTH
W/BLU-WHITE/BLUE	W/RED-WHITE/RED

CIRCUIT DIAGRAM

For Dispenser & Home Bar & CoolSelect Zone™ Models

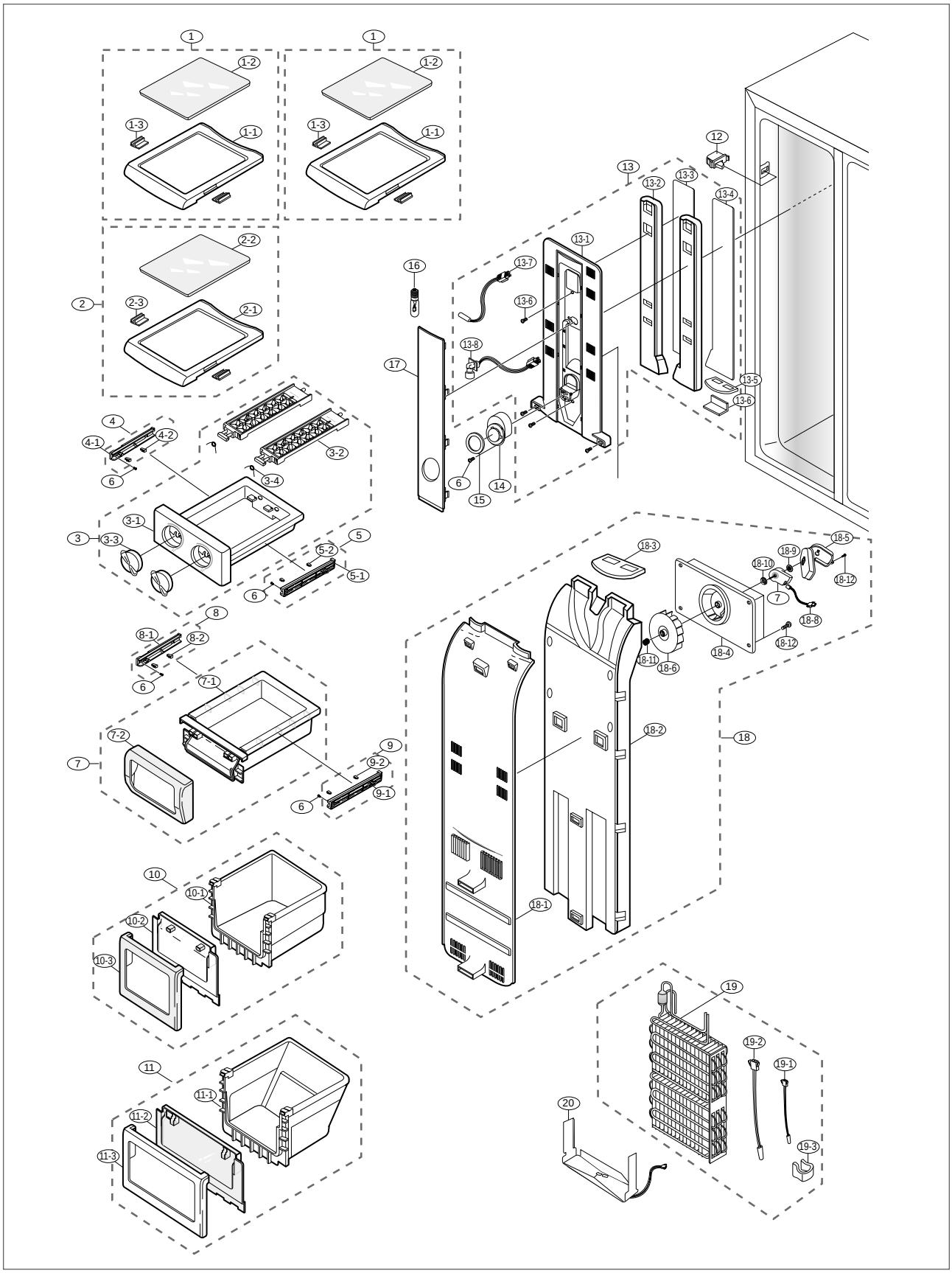


Reference

RED-RED	WHT-WHITE
BLU-BLUE	YEL-YELLOW
ORG-ORANGE	BLK-BLACK
P/BLU-PINK/BLUE	PRP-PURPLE
BRN-BROWN	W/BLK-WHITE/BLACK
PNK-PINK	S/BLU-SKY/BLUE
GRY-GRAY	E-EARTH
W/BLU-WHITE/BLUE	W/RED-WHITE/RED

12 . Illustrated Parts Catalog.

12-1) Freezer Room Exploded View



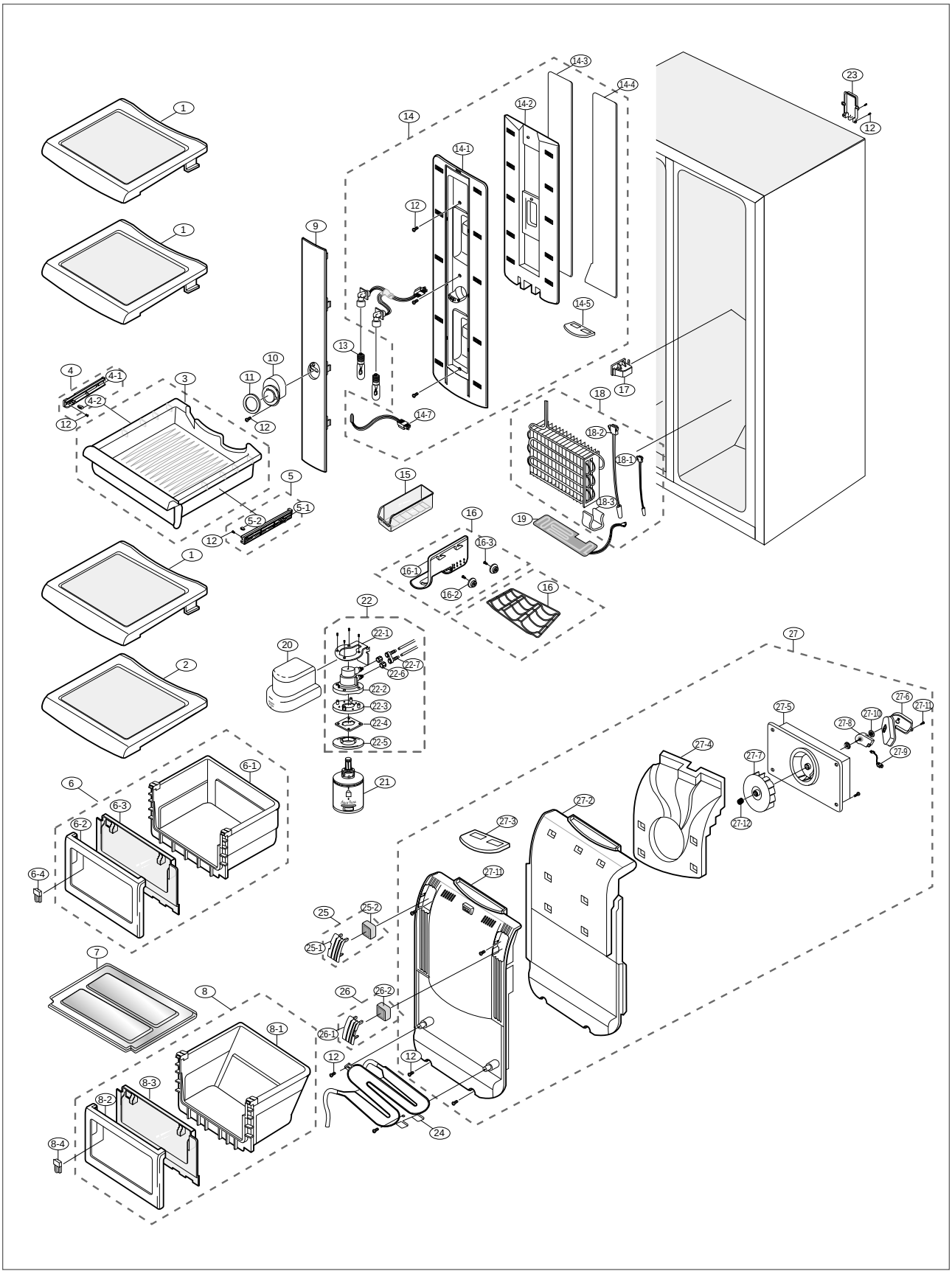
■ **Parts List of Freezer**

NO	CODE-NO	PART NAME	Spec	Quantity	Remark
1	DA67-00180A	SHELF-FRE ASSY	GLASS-SHELF	1	
1-1	DA67-00175A	SHELF-FRE	HIPS	1	
1-2	DA67-00177B	SHELF GLASS	GLASS	1	
1-3	DA64-00090A	TRIM-SHELF	PVC	2	
2	DA67-00181A	SHELF-FRE ASSY	GLASS-SHELF	1	
2-1	DA67-00146A	SHELF-FRE	HIPS	1	
2-2	DA67-00177C	SHELF GLASS	GLASS	1	
2-3	DA64-00090A	TRIM-SHELF	PVC	2	
3	DA66-00047A	TRAY-ICE ASSY		1	
3-1	DA71-00059A	FIXER-TRAY ICE	HIPS	1	
3-2	DA66-00032A	TRAY-ICE	HIPS	2	
3-3	DA64-00084A	KNOB-TRAY ICE	HIPS	2	
3-4	DA61-20136A	SPRING ETC-ICE MAKER	STS304 , PI10	2	
4	DA97-01292A	ASSY RAIL-BASKET,L	HIPS	2	
4-1	DA61-00044B	RAIL-BASKET,L	HIPS	1	
4-2	DA63-00202A	GROMMET-RAIL	NY-6	1	
5	DA97-01291A	ASSY RAIL-BASKET,R	HIPS	2	
5-1	DA61-00045B	RAIL-BASKET,R	HIPS	1	
5-2	DA63-00202A	GROMMET-RAIL	NY-6	1	
6	6002-000215	SCREW-TAPPING	TH,+,1,M4.0,L16,ZPC(YEL)		
7	DA67-00186A	CASE-ICE CUBE ASSY	HIPS	1	
7-1	DA67-00155A	CASE-TRAY ICE	GPPS	1	
7-2	DA63-00179A	COVER-TRAY	HIPS	1	
8	DA97-01247A	ASSY RAIL LOW,L	HIPS	1	
8-1	DA61-60179A	RAIL-LOW	GPPS	1	
8-2	DA63-40256B	GROMMET-RAIL	NY-6	1	
9	DA97-01248A	ASSY RAIL LOW,R	HIPS	1	
9-1	DA61-60180A	RAIL-LOW	HIPS	1	
9-2	DA63-40256B	GROMMET-RAIL	NY-6	1	
10	DA67-00182C	CASE-BASKET UPP ASSY		1	
10-1	DA67-00150A	CASE-BASKET	PP	1	
10-2	DA63-00174C	COVER-FRONT FRE,B	GPPS	1	
10-3	DA63-00170A	COVER-FRONT	HIPS	1	
11	DA67-00183C	CASE-BASKET LOW ASSY		1	
11-1	DA67-00151A	CASE-BASKET	PP	1	
11-2	DA63-00174C	COVER-FRONT FRE,B	GPPS	1	
11-3	DA63-00170A	COVER-FRONT	HIPS	1	
12	DA34-10121A	SWITCH-DOOR	PA6	1	
13	DA97-00101J	ASSY COVER-MULTI FRE		1	
13-1	DA63-00363A	COVER EVAP-FRE,FRONT UPP	UPP PP	1	
13-2	DA72-00245A	INSULATION DUCT-FRE,UPP	FOAM-PS	1	
13-3	DA72-00158F	SEAL EVAP-FRONT FRE,L	T2.0	1	
13-4	DA72-00159E	SEAL EVAP-FRONT,FRE R	T2.0	1	
13-5	DA62-00219A	SEAL-AIR FRE,UPP	OJC-3000 , T7	1	
13-6	DA70-00215B	PLATE-INS,DUCT	RD-PVC , T1.2	2	
13-7	DA32-10105H	SENSOR-ASSY	502AT, -10~35 , 5V	1	
14	DA63-00178A	COVER-SENSOR	GPPS	2	
15	DA63-00162B	COVER SENSOR-B	ABS , PNC2	2	
16	4713-001132	LAMP-INCANDESCENT	240V , 30W	3	

■ **Parts List of Freezer**

NO	CODE-NO	PART NAME	Spec	Quantity	Remark
17	DA63-00364A	COVER LAMP-FRE,A	PP	1	
18	DA97-00360P	ASSY COVER EVAP-FRE	BLDC	1	
18-1	DA63-00153B	COVER EVAP-FRE(FRONT LOW)	PP	1	
18-2	DA62-00186A	INSULATION DUCT-FRE	FOAM-PS	1	
18-2	DA72-00227A	SEAL-AIR FRE LOW	OJC-3000 , T5	1	
18-4	DA61-00417A	CASE MOTOR	ABS SCRAP	1	
18-5	DA63-00713A	COVER-MOTOR	PP	1	
18-6	DA31-00038A	FAN-CIRCUIT	ABS	1	
18-7	DA31-00020E	MOTOR DC-BLDC,SENSOR	DREP3020LA	1	
18-8	DA39-00060B	WIRE HARNESS-MOTOR		1	
18-9	DA63-01146A	GROMMET-MOTOR	NBR	2	
18-10	6002-000471	SCREW-TAPPING	TH,+,1,M4,L12,STS304	2	
18-11	DA61-20128A	SPRING ETC-FAN	STS27 , PI7.8 , ID1.0	1	
19	DA96-00090B	ASSY EVAP-FRE	230V	1	
19-1	DA32-00006B	SENSOR ASSY	PX-41C RD SEN,A TOP,-10°C	1	
19-2	DA47-10148J	THERMO FUSE-ASSY	SW-102T , 250V	1	
19-3	DA61-00603A	FIXER-SENSOR	PP	1	
20	DA97-00339B	ASSY-PLATE DRAIN,FRE	230V , 41W	1	
20-1	DA47-00092B	HEATER DRAIN-FRE	230V , 41W	1	
20-1	DA70-00404A	PLATE-DRAIN FRE	GALVALUME , T0.5	1	

12-2) Refrigerator Room Exploded View (RS21N, RS21H, RS21D, RS21F, RS23N, RS23H, RS23D, RS23F)



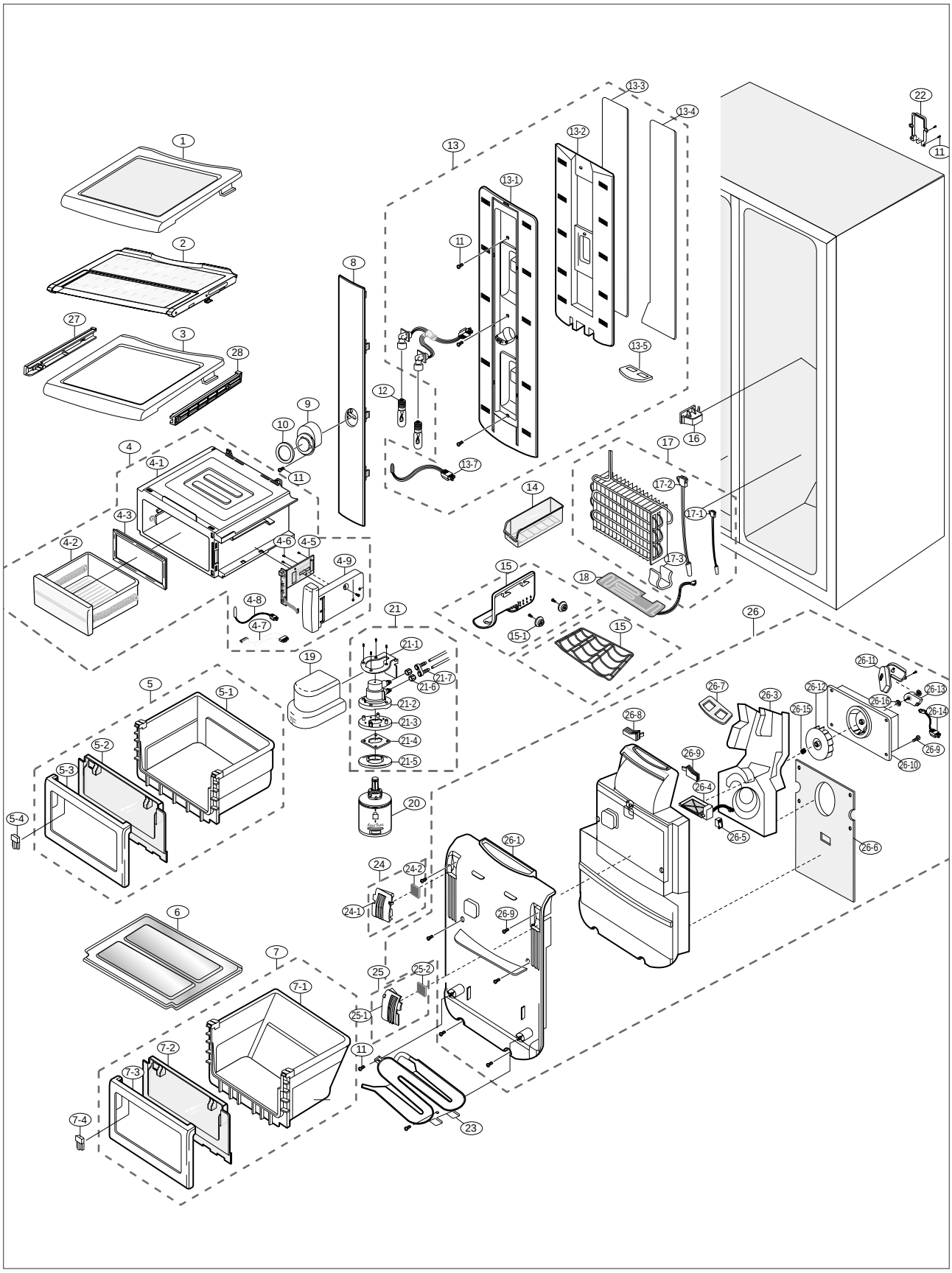
■ **Parts List of Refrigerator**

NO	CODE-NO	PART NAME	Spec	Quantity	Remark
1	DA67-00149A	SHELF-REF UPP	GLASS	1	
2	DA67-00148B	SHELF REF-LOW	GLASS	1	
3	DA66-00038A	TRAY-CHIL ROOM	GPPS	1	
4	DA97-01247A	ASSY RAIL LOW,L	HIPS	1	
4-1	DA61-60179A	RAIL-LOW	HIPS	1	
4-2	DA63-40256B	GROMMET-RAIL	NY-6	1	
5	DA97-01248A	ASSY RAIL LOW,R	HIPS	1	
5-1	DA61-60180A	RAIL-LOW	HIPS	1	
5-2	DA63-40256B	GROMMET-RAIL	NY-6	1	
6	DA67-00184C	CASE-VEG UPP ASSY	HIPS	1	
6-1	DA63-00175A	COVER-FRONT	HIPS	1	
6-2	DA63-00177C	COVER-FRONT REF,B	GPPS	1	
6-3	DA67-00152A	CASE-VEG	PP	1	
6-4	DA64-00085A	KNOB-MOIS CONT	ABS	1	
7	DA63-10942B	COVER-VEG,LOW	HIPS	2	
8	DA67-00185C	CASE-VEG LOW ASSY	HIPS	1	
8-1	DA63-00175A	COVER-FRONT	HIPS	1	
8-2	DA63-00177C	COVER-FRONT REF,B	GPPS	1	
8-3	DA67-00153A	CASE-VEG	PP	1	
8-4	DA64-00085A	KNOB-MOIS CONT	ABS	1	
9	DA63-01638A	COVER-LAMP REF	PP	1	
10	DA63-00178A	COVER-SENSOR	GPPS	2	
11	DA63-00162B	COVER SENSOR-B	ABS , PNC2	2	
12	6002-000215	SCREW-TAPPING	TH,+,1,M4.0,L16,ZPC(YEL)	15	
13	4713-001132	LAMP-INCANDESCENT	240V , 30W	3	
14	DA97-01420A	ASSY COVER-MULTI REF		1	
14-1	DA63-00158A	COVER-MULTI	PP	1	
14-2	DA72-00144A	INSULATION	FOAM-PS	1	
14-3	DA62-00566A	SEAL-MULTI REAR,L	T2.0	1	
14-4	DA62-00566B	SEAL-MULTI REAR,R	T2.0	1	
14-5	DA62-00587A	SEAL-MULTI AL,UPP	FOAM-PE + AL50um	1	
14-6	DA47-00025H	LAMP HOLDER	E 14,250V,1A,370,NTR,PBT 5VA	1	
14-7	DA32-10105H	SENSOR-ASSY	502AT,K-PJT,-10~35,5V,5KOHM	1	
15	DA67-40250E	TRAY-UTILITY	GPPS	1	
16	DA67-00711A	SHELF WIRE-WINE,RACK	MSWR10	1	
16	DA67-00145A	SHELF-WINE	HIPS		
16-1	DA71-20252A	FIXER-GROMMET DOOR	ABS	2	
17	DA34-10110B	SWITCH-DOOR	125/1.5A	1	
18	DA96-00013H	ASSY EVAP-REF	230V , 110W	1	
18-1	DA32-00006B	SENSOR ASSY	PX-41C RD SEN,A TOP,-10°C	1	
18-2	DA47-10148J	THERMO FUSE-ASSY	SW-102T,250V	1	
18-3	DA61-00453A	FIXER-SENSOR	PP	1	
19	DA47-00039B	HEATER-DRAIN ASSY,REF	240V	1	
19-1	DA47-00038B	HEATER-DRAIN,REF	240V	1	
19-2	DA70-00231A	PLATE-DRAIN,REF	SBHG1 , T0.6	1	
20	DA97-00724A	ASSY-COVER FILTER	ABS	1	
21	DA29-00003A	FILTER-WATER ASS'Y		1	
22	DA97-00725C	ASSY CASE-FILTER	A-TOP,EXP,INSERT-FILTER	1	
23	DA63-00586A	COVER-TUBE FILTER	PP	1	

■ **Parts List of Refrigerator**

NO	CODE-NO	PART NAME	Spec	Quantity	Remark
24	DA74-00056F	TANK WATER-ASSY	HD-PE	1	
25	DA63-00365C	ASSY-COVER PURIFIER,L		1	
25-1	DA63-00163A	COVER-PURIFIER L	ABS		
25-2	DA02-90106K	CATALYST-LTC	SS400-10-3		
26	DA63-00366C	ASSY-COVER PURIFIER,R		1	
26-1	DA63-01643A	COVER-PURIFIER R	ABS		
26-2	DA02-90106K	CATALYST-LTC	SS400-10-3		
27	DA63-00217L	COVER EVAP-REF ASSY		1	
27-1	DA63-00159B	COVER EVAP-REF	PP	1	
27-2	DA72-00142A	INSULATION-DUCT	FOAM-PS	1	
27-3	DA72-00229A	SEAL-AIR,REF UPP	OJC-3000 , T5	1	
27-4	DA72-00143A	INSULATION-DUCT	FOAM-PS	1	
27-5	DA67-00158A	CASE-MOTOR	PP	1	
27-6	DA63-00184A	COVER-MOTOR	PP	1	
27-7	DA31-00016A	FAN-CIRCUIT	-,ET-PJT,-,-,-,12,Ø95,Ø63.	1	
27-8	DA31-00020E	MOTOR DC-BLDC	DREP3020LA,ET,0.245	1	
27-9	DA39-00060H	WIRE HARNESS-MOTOR	ET-PJT,-,-,-,L450,-,-	1	
27-10	DA63-00457A	GROMMET-MOTOR	NBR	2	
27-11	6002-000471	SCREW-TAPPING	TH,+,1,M4,L12,PASS,STS304	1	
27-12	DA61-20128A	SPRING ETC-FAN	STS27 , PI7.8 , ID1.0	1	

12-3) Refrigerator Room Exploded View (RS21J, RS21K, RS23J, RS23K)



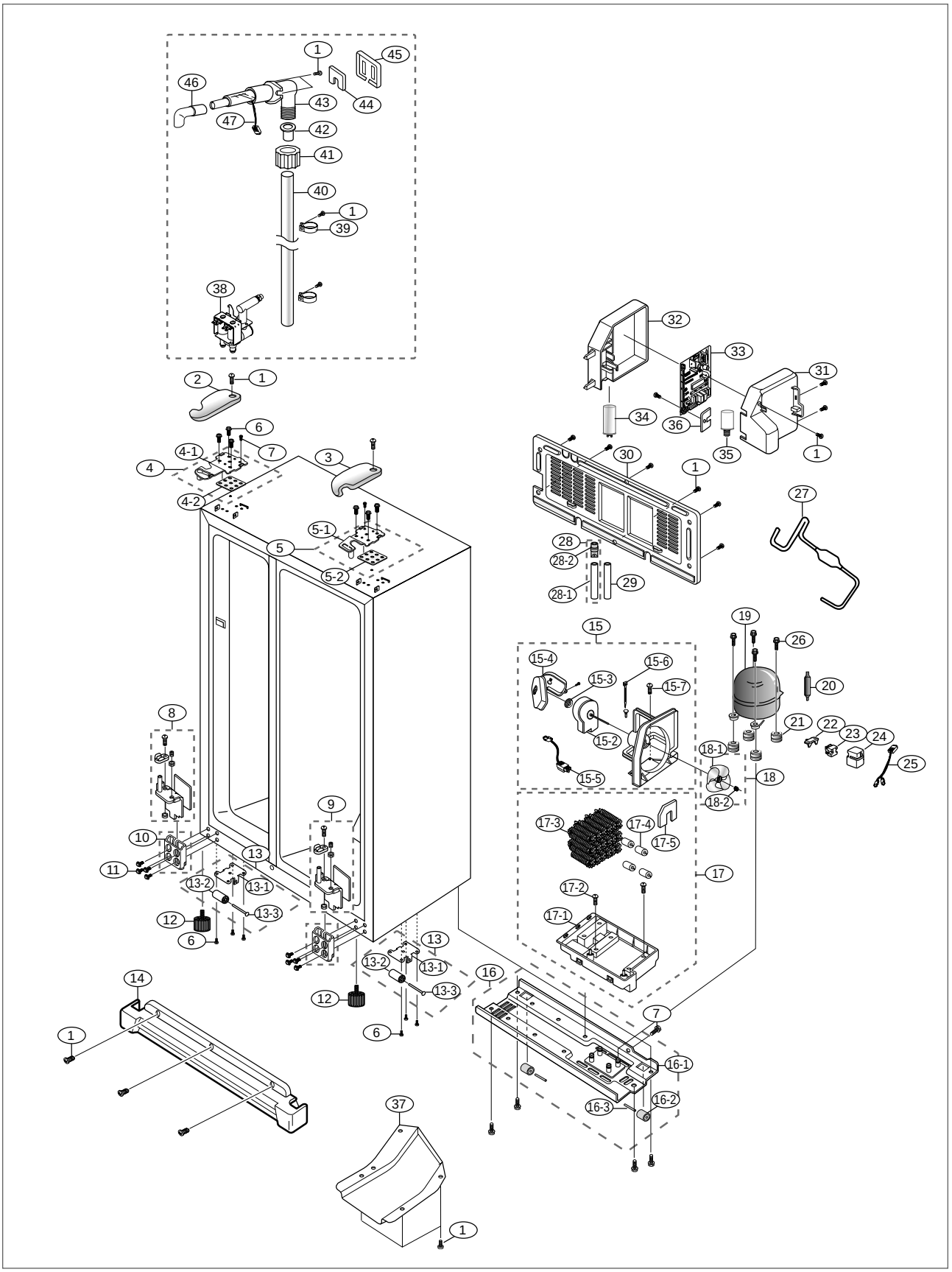
■ **Parts List of Refrigerator**

NO	CODE-NO	PART NAME	Spec	Quantity	Remark
1	DA67-00149A	SHELF-REF UPP	GLASS	1	
2	DA97-00199L	ASSY SHELF-FOLD	GLASS	1	
3	DA97-01454A	ASSY SHELF REF-LOW	HIPS	1	
4	DA97-01413A	ASSY CASE-CONVERTIBLE	CONVERTIBLE	1	
4-1	DA97-01412A	ASSY CASE-	SUB CONVERTIBLE	1	
4-2	DA97-01411A	CONVERTIBLE,	CONVERTIBLE	1	
4-3	DA63-01783A	ASSY TRAY-CONVERTIBLE	SF-PVC	1	
4-4	DA61-01207A	GASKET-CONVERTIBLE	ABS-SCRAP	1	
4-5	DA41-00108A	CASE-CONTROL CONV	CONVERTIBLE	1	
4-6	6002-000462	PBA SUB	PH,+,2,M3.0,L10,ZPC(YEL),M	5	
4-7	DA39-00215A	SCREW-TAPPING		1	
4-8	DA32-10109X	WIRE HARNESS	5V , CONVERTIBLE	1	
4-9	6009-001293	SENSOR ASSY	STS304,-,PWH,+,M4,L15.5	2	
5	DA67-00184C	SCREW-SPECIAL		1	
5-1	DA63-00175A	CASE-VEG UPP ASSY	HIPS	1	
5-2	DA63-00177C	COVER-FRONT	GPPS	1	
5-2	DA67-00152A	COVER-FRONT REF,B	PP	1	
5-4	DA64-00085A	CASE-VEG	ABS	1	
6	DA63-10942B	KNOB-MOIS CONT	HIPS	2	
7	DA67-00185C	COVER-VEG,LOW	GPPS	1	
7-1	DA63-00175A	CASE-VEG LOW ASSY	PP	1	
7-2	DA63-00177C	COVER-FRONT	ABS	1	
7-3	DA67-00153A	COVER-FRONT REF,B	PP	1	
7-4	DA64-00085A	CASE-VEG	ABS	1	
8	DA63-01638A	KNOB-MOIS CONT	PP	1	
9	DA63-00178A	COVER-LAMP REF	GPPS	2	
10	DA63-00162B	COVER-SENSOR	ABS , PNC2	2	
11	6002-000215	COVER SENSOR-B	TH,+,1,M4.0,L16,ZPC(YEL)	15	
12	4713-001132	SCREW-TAPPING	240V , 30W	3	
13	DA97-01420A	LAMP-INCANDESCENT		1	
13-1	DA63-00158A	ASSY COVER-MULTI REF	PP	1	
13-2	DA72-00144A	COVER-MULTI	FOAM-PE	1	
13-3	DA62-00566A	INSULATION	T2.0	1	
13-4	DA62-00566B	SEAL-MULTI REAR,L	T2.0	1	
13-5	DA62-00587A	SEAL-MULTI REAR,R	POAM-PE	1	
13-6	DA47-00025H	SEAL-MULTI AL,UPP	E 14,250V,1A,370,NTR,PBT 5VA	1	
13-7	DA32-10105H	LAMP HOLDER	502AT,K-PJT,-10~35,5V,5KOHM	1	
14	DA67-40250E	SENSOR-ASSY	GPPS	1	
15	DA67-00711A	TRAY-UTILITY	MSWR10	1	
15	DA67-00145A	SHELF WIRE-WINE,RACK	HIPS		
15-1	DA71-20252A	SHELF-WINE	ABS	2	
16	DA34-10110B	FIXER-GROMMET DOOR	-,125/1.5A.25,-,-,-,WHT,-,-	1	
17	DA96-00013H	SWITCH-DOOR	230V , 110W	1	
17-1	DA32-00006B	ASSY EVAP-REF	PX-41C RD SEN , -10°C ~	1	
17-2	DA47-10148J	SENSOR ASSY	SW-102T,250V	1	
17-3	DA61-00453A	THERMO FUSE-ASSY	PP	1	
18	DA47-00039B	FIXER-SENSOR	240V	1	
18-1	DA47-00038B	HEATER-DRAIN ASSY,REF	240V	1	
18-2	DA70-00231A	HEATER-DRAIN,REF	SBHG1 , T0.6	1	

■ **Parts List of Refrigerator**

NO	CODE-NO	PART NAME	Spec	Quantity	Remark
19	DA97-00724A	ASSY-COVER FILTER		1	
20	DA29-00003A	FILTER-WATER ASS'Y		1	
21	DA97-00725C	ASSY CASE-FILTER		1	
22	DA63-00586A	COVER-TUBE FILTER	PP	1	
23	DA74-00056F	TANK WATER-ASSY	HD-PE	1	
24	DA63-00365C	ASSY-COVER PURIFIER,L		1	
24-1	DA63-00163A	COVER-PURIFIER L	ABS		
24-2	DA02-90106K	CATALYST-LTC	SS400-10-3		
25	DA63-00366C	ASSY-COVER PURIFIER,R		1	
25-1	DA63-01643A	COVER-PURIFIER R	ABS		
25-2	DA02-90106K	CATALYST-LTC	SS400-10-3		
26	DA97-01419A	ASSY COVER-EVAP REF		1	
26-1	DA63-01636A	COVER-EVAP REF	PP	1	
26-2	DA62-00505A	INSULATION DUCT-REF,A	FOAM-PS	1	
26-3	DA62-00506A	INSULATION DUCT-REF,B	FOAM-PS	1	
26-4	DA31-00043A	MOTOR-DAMPER	NSBA001TA1,AT-PJT,MAX 60MA	1	
26-5	DA61-00413A	FIXER-AIR GUIDE	PP	1	
26-6	DA62-00567A	SEAL-COVER EVAP	FOAM-PE + AL(30um)	1	
26-7	DA62-00568A	SEAL-AIR REF,UPP	OJC-3000 , T5	1	
26-8	DA62-00614A	SEAL CUTT FOAM,LEX	SPONGE , T5	1	
26-9	6002-000215	SCREW-TAPPING	TH,+,1,M4.0,L16,ZPC(YEL),M	4	
26-10	DA61-00417A	CASE MOTOR	ABS-SCRAP	1	
26-11	DA63-00713A	COVER-MOTOR	PP	1	
26-12	DA31-00016A	FAN-CIRCUIT		1	
26-13	DA31-00020J	MOTOR DC-BLDC(SENSOR)	DREP3020LB,AT(F,R)	1	
26-14	DA39-00060B	WIRE HARNESS-MOTOR		1	
26-15	DA61-20128A	SPRING ETC-FAN	STS27 , PI7.8 ,ID1.0	1	
26-16	DA63-00423A	GROMMET-MOTOR,BLDC	NBR	2	
27	DA61-01205A	SUPPORT-SHELF REF,L	HIPS	1	
28	DA61-01206A	SUPPORT-SHELF REF,R	HIPS	1	

12-4) Unit Exploded View (RS21N, RS21H, RS21D, RS21F, RS23N, RS23H, RS23D, RS23F)



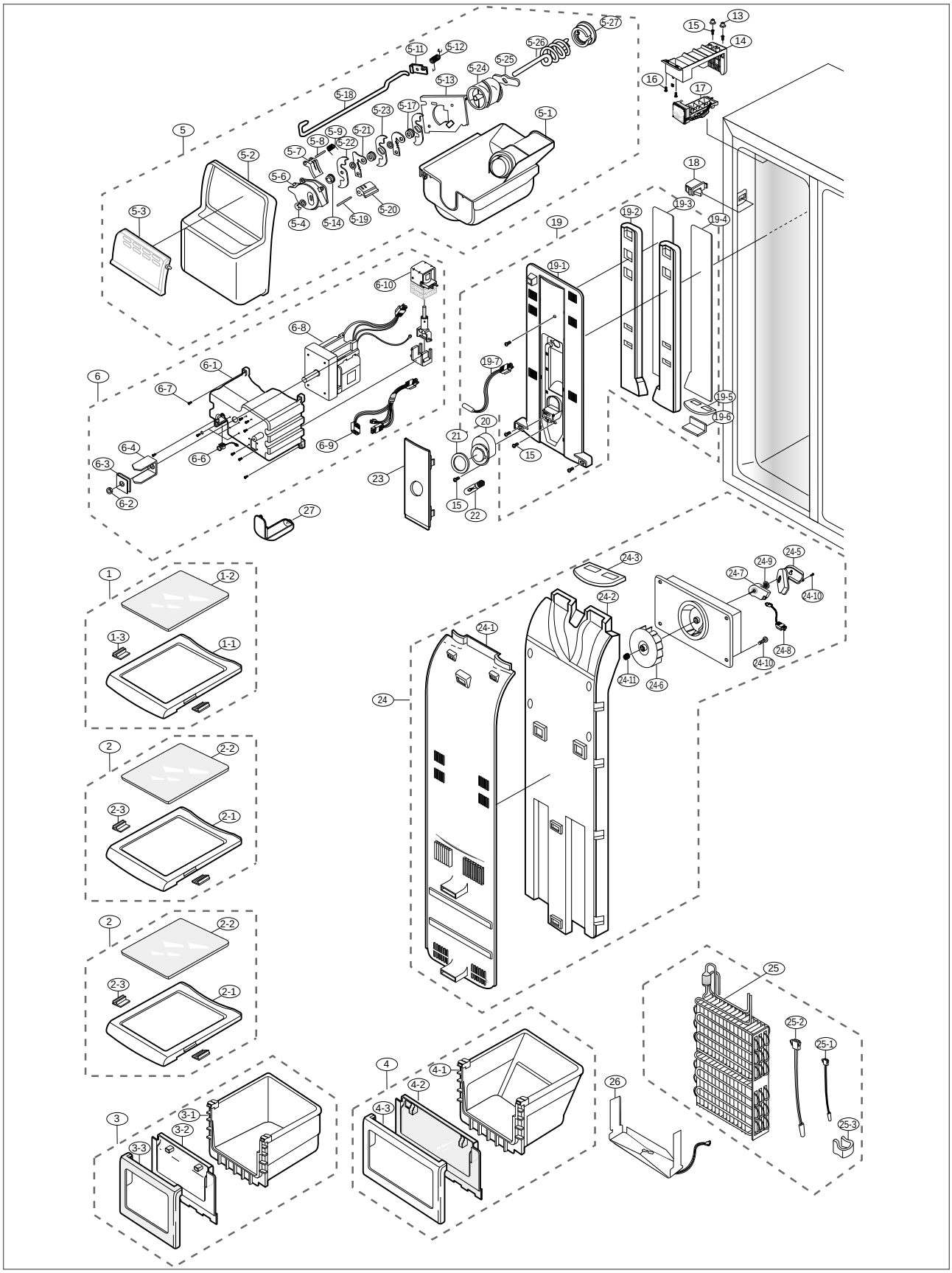
■ **Parts List of Unit Exploded View**

NO	CODE-NO	PART NAME	Spec	Quantity	Remark
1	6002-000213	SCREW-TAPPING	TH,+,1,M4,L12,ZPC(YEL)	12	
2	DA63-01379B	COVER HINGE-UPP,L	ABS	1	
3	DA63-01380B	COVER HINGE-UPP,R	ABS	1	
4	DA97-00585B	ASSY HINGE-UPP,L		1	
4-1	DA61-00051E	HINGE-UPP,L	SHP1 , T3.0	1	
4-2	DA97-01497A	ASSY-SHIM HINGE UPP	RD-PVC	1	
5	DA97-00586B	ASSY HINGE-UPP,R		1	
5-1	DA61-00052G	HINGE-UPP,R	SHP1 , T3.0	1	
5-2	DA97-01497A	ASSY-SHIM HINGE UPP	RD-PVC	1	
6	DA60-10124A	SCREW-TAP TITE	M6 ,L16,HH,ZPC2	6	
7	6002-000215	SCREW-TAPPING	TH,+,1,M4.0,L16,ZPC(YEL)	2	
8	DA97-00165G	ASSY HINGE-LOW,L	T4.5 , SHP1	1	
8-1	6003-001435	SCREW-TAPTITE	M5,L12.7,ZPC(YEL)	1	
8-2	6011-001442	BOLT-SOCKET	M8,L15,ZPC(BLK),SCM435	1	
8-3	6021-001125	NUT-HEXAGON	3,M8, P1.25,ZPC(BLK),SWRCH10	1	
8-4	DA61-00096J	HINGE-LOW,L	SHP1 , SM45	1	
8-5	DA66-90113B	CAM HINGE-RISER,UPP	NY-66(2110R)	1	
8-6	DA97-01494A	ASSY-SHIM HINGE LOW	T1.5 , RD-PVC	1	
9	DA97-00166E	ASSY HINGE-LOW,R	T4.5 , SHP1	1	
9-1	6003-001435	SCREW-TAPTITE	M5,L12.7,ZPC(YEL)	1	
9-2	6011-001442	BOLT-SOCKET	M8,L15,ZPC(BLK),SCM435	1	
9-3	6021-001125	NUT-HEXAGON	3,M8, P1.25,ZPC(BLK),SWRCH10	1	
9-4	DA61-00095G	HINGE-LOW, R	SHP1 , SM45	1	
9-5	DA66-90113B	CAM HINGE-RISER,UPP	NY-66(2110R)	1	
9-6	DA97-01494A	ASSY-SHIM HINGE LOW	T1.5 , RD-PVC	1	
10	DA61-00317A	BRACKET-HINGE,LOW	SHP1	2	
11	6009-001255	SCREW-HEX	SWRCH18A,-,HEX-PLANGE,HEX,	M6,L 8	
12	DA61-30102C	FOOT-FRONT	PP	2	
13	DA61-00056A	CASTER-FRONT ASSY	SCP1	2	
13-1	DA60-90124A	RIVET	MSWR10,OD6.0,L56,ZPC3	1	
13-2	DA61-40115A	CASTER-FRONT	NY-66	1	
13-3	DA71-00064A	REINF-CASTER-FRONT	SCP1 , T2.6	1	
14	DA63-00189B	COVER-LEG-FRONT	HIPP	1	
15	DA97-01283A	ASSY SUPPORT-CIRCUIT MOTOR	MOTOR	1	
15-1	DA61-00415A	SUPPORT-CIRCUITE MOTOR	ABS SCRAP	1	
15-2	DA31-00020H	MOTOR DC-BLDC	DRCP3030LA , 0.259A	1	
15-3	DA63-01146A	GROMMET-MOTOR	NBR	2	
15-4	DA63-00713A	COVER-MOTOR	PP	1	
15-5	DA96-00042A	ASSY-HARNESS COMP	350mm	1	
15-6	6501-000122	CABLE TIE	DACT-100,-,W2.5,L101.6,NTR	1	
15-7	6002-000480	SCREW-TAPPING	M4,L10,ZPC(YEL)	1	
16	DA97-00555B	ASSY CHASSIS-COMP		1	
16-1	DA71-00058A	CHASSIS-COMP	SBHG1 , T1.4	1	
16-2	DA61-40126B	CASTER-REAR	PP	2	
16-3	DA60-90146A	PIN-CASTER	MSWR10,OD6.0,L40,ZPC2	2	
17	DA97-01285A	ASSY TRAY-DRAIN WATER		1	
17-1	DA66-00034A	TRAY-DRAIN WATER		1	
17-2	6009-001252	SCREW-SPECIAL	SWRCH18A,-,PH,+,M4.0,L20	4	
17-3	DA97-00259E	ASSY PIPE-SPIRAL COND	SPIRAL	1	

■ **Parts List of Unit Exploded View**

NO	CODE-NO	PART NAME	Spec	Quantity	Remark
17-4	DA63-40128A	GROMMET-SUB COND	NBR	2	
17-5	DA62-00440A	SEAL-SUB COND	FOAM-PE , T5.0	1	
18	DA31-00010C	FAN-ASS'Y	_150	1	
18-1	DA31-00015B	FAN-TURBO	ABS	1	
18-2	DA61-20128A	SPRING ETC-FAN	STS27 , PI7.8, ID1.0	1	
19	MK4A5QR1U/EØ1	COMPRESSOR	15.31cc,220/240V~50Hz,RSCR	1	
20	DA73-30102B	DRYER-ASSY	CU,OD18.85,ID2,L102,10.0G	1	
21	DA63-40004A	GROMMET-COMP	NBR	4	
22	DA34-10003V	RELAY PROTECTOR O/L	4TM265RHBYY-53,	1	
23	DA35-10013B	RELAY-PTC	J531Q35E330M385-2,385V.6A	1	
24	DA63-10352A	COVER-RELAY	PP	1	
25	DA39-00084B	WIRE HARNESS COMP	-,-,EXP,-,-,-,COMP,NOTHING,	1	
26	DA60-20008A	BOLT-HEX	SM30C	4	
27	DA97-00918A	ASSY PIPE CONNECT		1	
28	DA97-00359A	ASSY TUBE-DRAIN	SOFT-PVC , T1.0 , L21	1	
28-1	DA62-20001R	TUBE PVC	SOFT-PVC , T1.0 , L21	1	
28-2	DA63-00951C	GROMMET-DRAIN HOSE	NBR	1	
29	DA62-20001P	TUBE PVC	SOFT-PVC , T1.0 , L21	1	
30	DA63-00278E	COVER COMP-ASSY	SBHG1 , T0.35	1	
31	DA61-00261A	CASE PCB-PANEL	ABS	1	
32	DA63-00783A	COVER PCB-PANEL	ABS	1	
33	DA41-00185B	PBA MAIN	ET-R600a,-,FR-4,1.6T*163*197,D	1	
33	DA41-00185A	PBA MAIN	ET-R600a,-,FR-4,1.6T*163*197,D	1	
33	DA41-00195A	PBA MAIN	ET-R600a,-,FR-4,1.6T*163*197,D	1	
34	DA27-00002A	COIL	4,+50%,-30%,38*50	1	
35	2501-001186	C-OIL	5UF,350V,BK,43X55MM,15	1	
36	DA71-00155B	FIXER-MAIN PCB	RD-PVC , T1.5	1	
37	DA74-00038C	DUCT-CABI,C	ABS SCRAP	1	
38	DA74-40149C	VALVE WATER-ASSY	RIV-12A-4	1	
40	DA73-00070V	PIPE-WATER LINE	PB(4137) , Ø6.35	1	
41	DA60-30104A	NUT-WATER LINE	NY-6	1	
42	DA71-20208A	FIXER-VALVE WATER	NY-6	1	
43	DA73-00134A	PIPE-WATER FRE,ASSY(SUB)	SUB)AL , Ø1.0	1	
44	DA72-00228C	SEAL-WATER PIPE	FOAM-PE , T10 , L80	1	
45	DA97-00979A	ASSY COVER-PIPE WATER	240V , 7W	1	
46	DA63-01701A	GROMMET-TUBE WATER,FILL	IN SILICON	1	
47	DA47-00035A	HEATER--WATER,PIPE	240V , 7W	1	

12-5) Freezer Room Exploded View (RS21D, RS21F, RS21J, RS21K, RS23D, RS23F, RS23J, RS23K)



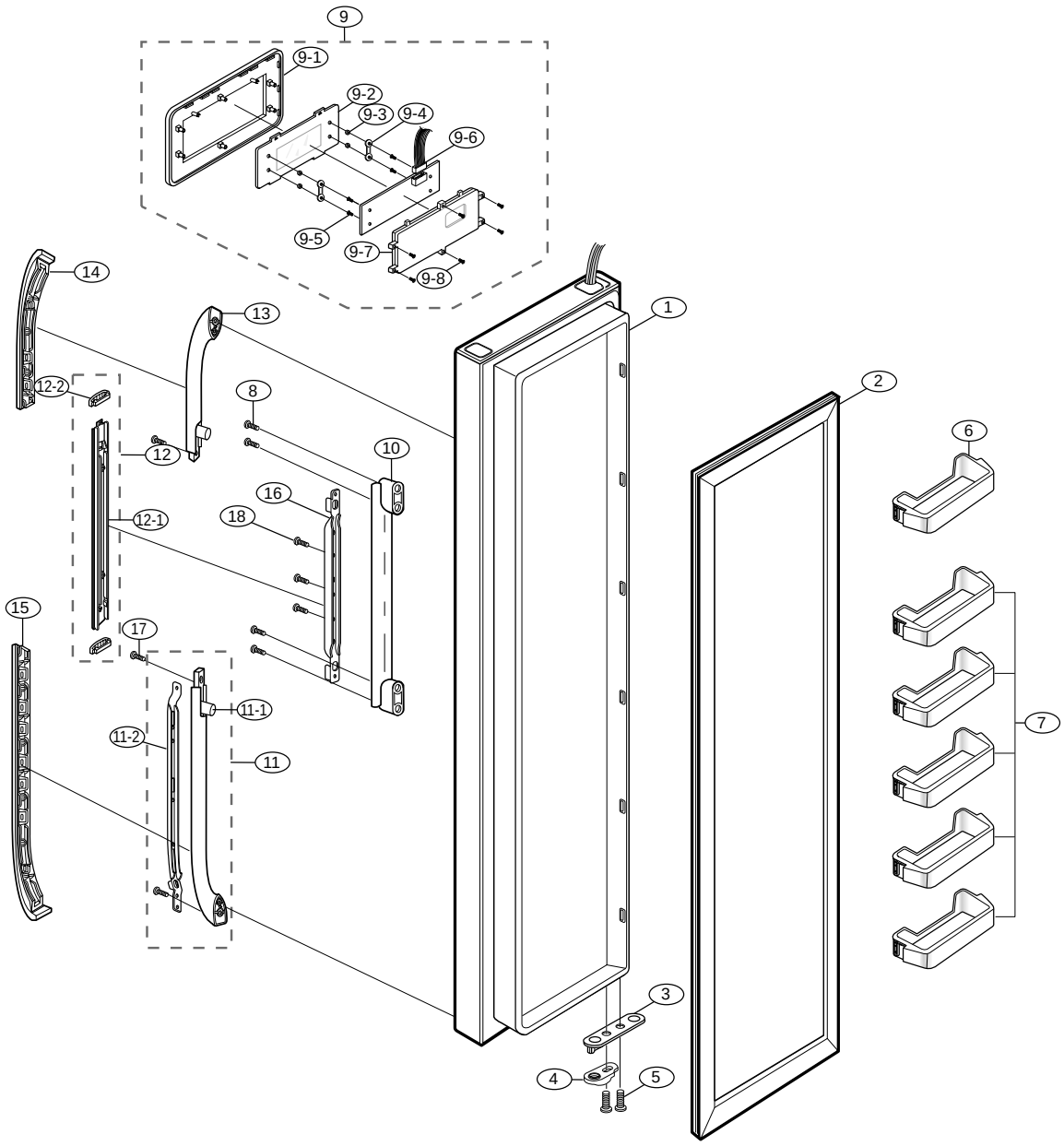
Part List of Freezer Room

NO	CODE-NO	PART NAME	Spec	Quantity	Remark
1	DA67-00180A	SHELF-FRE ASSY	GLASS-SHELF	1	
1-1	DA67-00175A	SHELF-FRE	HIPS	1	
1-2	DA67-00177B	SHELF GLASS	GLASS	1	
1-3	DA64-00090A	TRIM-SHELF	PVC	2	
2	DA67-00181A	SHELF-FRE ASSY	GLASS-SHELF	1	
2-1	DA67-00146A	SHELF-FRE	HIPS	1	
2-2	DA67-00177C	SHELF GLASS	GLASS	1	
2-3	DA64-00090A	TRIM-SHELF	PVC	2	
3	DA67-00182C	CASE-BASKET UPP ASSY		1	
3-1	DA67-00150A	CASE-BASKET	HIPS	1	
3-2	DA63-00174C	COVER-FRONT FRE,B	HIPS	1	
3-3	DA63-00170A	COVER-FRONT	HIPS	1	
4	DA67-00183C	CASE-BASKET LOW ASSY		1	
4-1	DA67-00151A	CASE-BASKET	HIPS	1	
4-2	DA63-00174C	COVER-FRONT FRE,B	HIPS	1	
4-3	DA63-00170A	COVER-FRONT	HIPS	1	
5	DA59-00136E	CRUSHER ICE ASSY		1	
5-4	DA60-40116A	WASHER-PLAIN	STS4	1	
5-2	DA63-00180A	COVER-ICE BUCKET	PP	1	
5-3	DA63-00181B	COVER-ICE BUCKET,B	GPPS	1	
5-5	DA63-10016A	COVER-CRUSHER DISP	PC	1	
5-1	DA66-00033A	TRAY-ICE		1	
6	DA61-00143C	CASE-AUGER MOTOR,ASSY		1	
6-1	DA67-00144B	CASE-AUGUR MOTOR	ABS SCRAP	1	
6-2	DA61-20140A	SPRING ETC-SOLENOID	STS304	1	
6-3	DA71-00163A	FIXER-NUT	STS420-J2 , T1 , CLIP	1	
6-4	DA70-20017A	PLATE-D/AUGER DISP	STS304 , L127XD14.4	1	
6-5	DA65-20107A	SADDLE-SOLENOID	NY-6	1	
6-6	DA47-40112V	LAMP HOLDER	PBT 5VA , E14	1	
6-7	6001-000033	SCREW-MACHINE	TH,+,M4,L10,-,STS304	2	
6-8	DA31-10141D	MOTOR GEARD	ISG-3250SSD,SR-S6586,1.8A,50	1	
6-9	DA39-00083A	WIRE HARNESS-SUB		1	
6-10	DA74-40151F	VALVE-SOLENOID		1	
6-11	DA63-90008A	BUSH-SOLENOID	POM	1	
13	DA71-20252A	FIXER-GROMMET DOOR	ABS	2	
14	DA59-30103J	ICE MAKER	DC12V	1	
15	6002-000215	SCREW-TAPPING	TH,+,1,M4.0,L16,ZPC(YEL)	15	
16	6002-000471	SCREW-TAPPING	TH,+,1,M4,L12,PASS,STS304	2	
17	DA67-40308A	TRAY-ICE	PP , T1.0	1	
17	DA67-40334A	TRAY-ICE	PP , T1.0	1	
18	DA34-10121A	SWITCH-DOOR	PA6	1	
19	DA97-00101J	ASSY COVER-MULTI FRE		1	
19-1	DA63-00363A	COVER EVAP-FRE,FRONT UPP	PP	1	
19-2	DA72-00245A	INSULATION DUCT-FRE,UPP	FOAM-PS	1	
19-3	DA72-00158F	SEAL EVAP-FRONT FRE,L	T2.0	1	
19-4	DA72-00159E	SEAL EVAP-FRONT,FRE R	T2.0	1	
19-5	DA62-00219A	SEAL-AIR FRE,UPP	OJC-3000 , T7.0	1	
19-6	DA70-00215B	PLATE-INS,DUCT	RD-PVC , T1.2	2	
19-7	DA32-10105H	SENSOR-ASSY	502AT,K-PJT,-10~35,5V,5KOHM	1	
20	DA63-00178A	COVER-SENSOR	GPPS	2	

■ **Part List of Freezer Room**

NO	CODE-NO	PART NAME	Spec	Quantity	Remark
21	DA63-00162B	COVER SENSOR-B	ABS , PNC-2	2	
22	4713-001132	LAMP-INCANDESCENT	240V , 30W	3	
23	DA63-00364A	COVER LAMP-FRE,A	PP	1	
24	DA97-00360P	ASSY COVER EVAP-FRE LOW)		1	
24-1	DA63-00153B	COVER EVAP-FRE(FRONT LOW)	PP	1	
24-2	DA62-00186A	INSULATION DUCT-FRE	FOAM-PS	1	
24-3	DA72-00227A	SEAL-AIR FRE LOW	OJC-3000 , T5	1	
24-4	DA61-00417A	CASE MOTOR	ABS SCRAP	1	
24-5	DA63-00713A	COVER-MOTOR	PP	1	
24-6	DA31-00038A	FAN-CIRCUIT	ABS	1	
24-7	DA31-00020E	MOTOR DC-BLDC,SENSOR	DREP3020LA,ET,0.245	1	
24-8	DA39-00060B	WIRE HARNESS-MOTOR	F-FAN	1	
24-9	DA63-01146A	GROMMET-MOTOR	NBR , ID6.5 , OD42	2	
24-10	6002-000471	SCREW-TAPPING	TH,+,1,M4,L12,PASS,STS304	2	
24-11	DA61-20128A	SPRING ETC-FAN	STS27 , PI7.8 , ID1.0	1	
25	DA96-00090B	ASSY EVAP-FRE	230V	1	
25-1	DA32-00006B	SENSOR ASSY	PX-41C RD SEN,A TOP,-10°C~	1	
25-2	DA47-10148J	THERMO FUSE-ASSY	SW-102T , 250V	1	
25-3	DA61-00603A	FIXER-SENSOR	PP	1	
26	DA97-00339B	ASSY-PLATE DRAIN,FRE	230V , 41W	1	
26-1	DA47-00092B	HEATER DRAIN-FRE	230V , 41W	1	
26-2	DA70-00404A	PLATE-DRAIN FRE	GALVALUME , T0.5	1	
27	DA63-00157A	COVER-LAMP	GPPS	1	

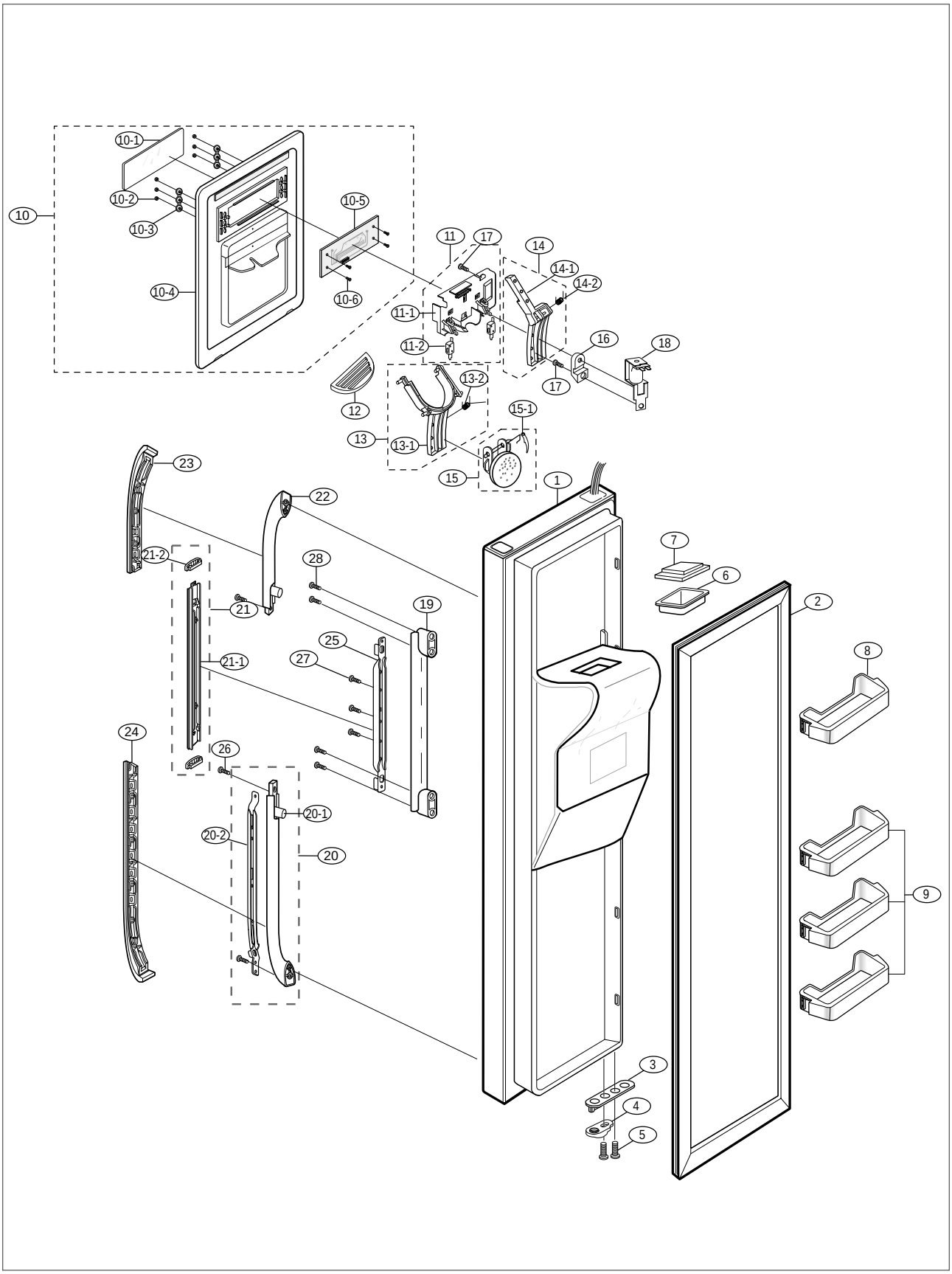
12-6) Freezer Room Door Exploded View



■ Part List of Freezer Room Door Exploded View

NO	CODE-NO	PART NAME	Spec	Quantity	Remark
1	-	ASSY DOOR FOAM FRE	-	1	
2	DA63-30231K	GASKET DOOR-FRE ASSY	SF-PVC	1	
3	DA61-00776A	STOPPER DOOR	SHP1 , T3.0	1	
4	DA66-90112C	CAM HINGE-RISER,LOW	NY-66	1	
5	6002-000468	SCREW-TAPPING	PH,+,2S,M5.0,L18,ZPC(YEL)	4	
6	DA63-00213C	GUARD-FRE,UPP	PP	1	
7	DA63-01311A	GUARD BOTTLE-FRE LOW	PP	5	
8	6002-000468	SCREW-TAPPING	PH,+,2S,M5.0,L18,ZPC(YEL)	4	
9	DA97-00191S	ASSY-COVER-CONTROL		1	
9-1	DA63-00971D	COVER-CONTROL FRONT	ABS , SNOW-WHITE	1	
9-2	DA63-01168C	COVER-CONTROL BASIC	GPPS	1	
9-3	DA64-00740B	KNOB-TOUCH,B	ABS , SNOW-WHITE	4	
9-4	DA61-00875A	SUPT-KNOB TOUCH,BASIC	SILICONE	2	
9-6	DA41-00174A	PBA PANEL	1.6*190*70	1	
9-7	DA63-00970A	COVER-PCB REAR	ABS , SNOW-WHITE SCRAP	1	
9-8	6002-000466	SCREW-TAPPING	PH,+,2S,M3.O,L8,ZPC(YEL)	4	
10	DA64-00096B	HANDLE BASE-MID	HIPP , SNOW-WHITE	1	
11	DA64-00111B	HANDLE-LOW-ASSY	ABS , SNOW-WHITE	1	
11-1	DA64-00095B	HANDLE BASE-LOW	HIPP , SNOW-WHITE	1	
11-2	DA71-00078A	REINF-HANDLE LOW	ABS , SNOW-WHITE	1	
12	DA64-00209A	HANDLE TRIM-ASSY,MID	ABS , SNOW-WHITE	1	
12-1	DA64-00098B	HANDLE TRIM-MID	ABS , SNOW-WHITE	1	
12-2	DA64-00196A	TRIM-HANDLE CONNECT,MID	SILVER COLOR	2	
13	DA64-00097B	HANDLE BASE-UPP	HIPP , SNOW-WHITE	1	
14	DA64-00100E	HANDLE-TRIM UPP	ABS , SNOW-WHITE	1	
15	DA64-00099B	HANDLE TRIM-LOW	ABS , SNOW-WHITE	1	
16	DA71-00077A	REINF-HANDLE-MID	SBHG1 , T1.4	1	
17	6002-000213	SCREW-TAPPING	TH,+,1,M4,L12,ZPC(YEL),SWR	3	
18	6002-000470	SCREW-TAPPING	TH,+,1,M4,L10,ZPC,SCRCH18A	3	

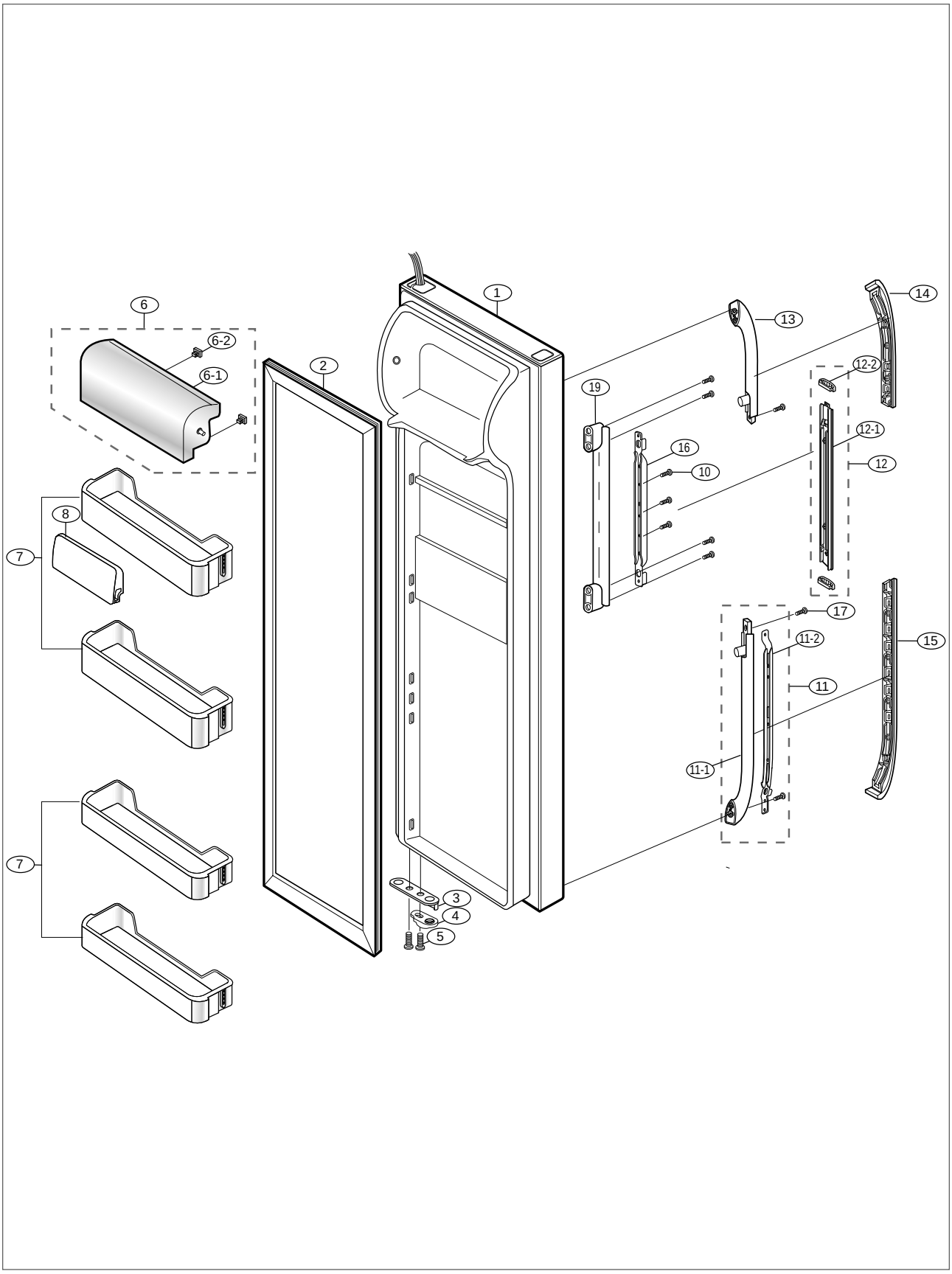
12-7) Freezer Room Door Exploded View (RS21D, RS21F, RS21J, RS21K, RS23D, RS23F, RS23J, RS23K)



■ Part List of Freezer Room Door Exploded View

NO	CODE-NO	PART NAME	Spec	Quantity	Remark
1	-	ASSY DOOR FOAM FRE	SNOW WHITE	1	
2	DA63-30231K	GASKET DOOR-FRE ASSY	SF-PVC	1	
3	DA61-00776A	STOPPER DOOR	SHP1,T3.0	1	
4	DA66-90112C	CAM HINGE-RISER,LOW	NY-66(2110R)	1	
5	6002-000468	SCREW-TAPPING	PH,+,2S,M5.0,L18,ZPC(YEL),	4	
6	DA67-00163B	CAP-CHUTE,ICE	ABS , SNOW-WHITE	1	
7	DA72-00262A	CUSHION-GUIDE ICE CHUTE	SILICON	1	
8	DA63-00213C	GUARD-FRE,UPP	HI-PP	1	
9	DA63-01311A	GUARD BOTTLE-FRE LOW	HI-PP	3	
10	DA97-01345A	ASSY COVER-DISPENSER	SNOW-WHIT	1	
10-1	DA63-01608A	COVER DISPENSER	ABS , SNOW-WHITE	1	
10-2	DA64-00740B	KNOB-TOUCH	ABS , SILVER COLOR	6	
10-3	DA61-00874A	SUPPORT-KNOB TOUCH,DISP	SILICON	2	
10-4	DA63-01169H	COVER-CONTROL DISP	ABS , SNOW-WHITE	1	
10-5	DA41-00173B	PBA PANEL	10mm	1	
10-6	6002-000466	SCREW-TAPPING	PH,2S,M3.O,L8,ZPC(YEL)	4	
11	DA97-01346A	ASSY COVER-PCB,PANEL REAR	REAR ,SNOW	1	
11-1	DA63-01609A	COVER-PCB PANEL,REAR	PP,SNOW WHITE	1	
11-2	DA34-00011A	SWITCH-MICRO	VP533A-OF-5,MICRO,250V,15A,	2	
12	DA66-00037G	TRAY DISPENSER	HIPS,SNOW-WHITE	1	
13	DA97-01350A	ASSY LEVER-DISPENSER,ICE	SNOW-WHITE	1	
13-1	DA66-00236A	LEVER-DISPENSER,ICE	ABS , SNOW-WHITE	1	
13-2	DA61-00088A	SPRING ETC-DISPENSER ICE-LEVER	STS304,	1	
14	DA97-01352A	ASSY LEVER-DISPENSER,WATER	SNOW-WHITE	1	
14-1	DA66-00237A	LEVER-DISPENSER WATER	ABS , SNOW-WHITE	1	
14-2	DA61-00338A	SPRING ETC-WATER LEVER,DISP	STS304	1	
15	DA97-00283A	ASSY COVER-ICE ROUTE	SNOW-WHITE	1	
15-1	DA71-00073A	STOPPER-LEVER DISPENSER	POM	1	
16	DA61-70234A	SUPPORT-TIME DELAY	HIPS	1	
17	6002-000471	SCREW-TAPPING	TH,+,1,M4,L12,STS304,	1	
18	DA74-40154C	VALVE SOLENOID	USD-DPS4	1	
19	DA64-00096B	HANDLE BASE-MID	HIPP , SNOW-WHITE	1	
20	DA64-00111B	HANDLE-LOW,ASSY	SNOW-WHITE	1	
20-1	DA64-00095B	HANDLE BASE-LOW	HIPP , SNOW-WHITE	1	
20-2	DA71-00078A	REINF-HANDLE,LOW	SBHG1,T1.4	1	
21	DA64-00209A	HANDLE TRIM-ASSY,MID	ABS , SNOW-WHITE	1	
21-1	DA64-00098B	HANDLE TRIM-MID	ABS , SNOW-WHITE	1	
21-2	DA64-00196A	TRIM-HANDLE CONNECT,MID	SILVER COLOR	2	
22	DA64-00097B	HANDLE-BASE,UPP	HIPP , SNOW-WHITE	1	
23	DA64-00100E	HANDLE-TRIM,UPP	ABS , SNOW-WHITE	1	
24	DA64-00099B	HANDLE-TRIM,LOW	ABS , SNOW-WHITE	1	
25	DA71-00077A	REINF-HANDLE,MID	SBHG1,T1.4	1	
26	6002-000213	SCREW-TAPPING	TH,+,1,M4,L12,ZPC(YEL),SWR	3	
27	6002-000470	SCREW-TAPPING	TH,+,1,M4,L10,ZPC,SCRCH18A	3	
28	6002-000468	SCREW-TAPPING	PH,+,2S,M5.0,L18,ZPC(YEL),	4	

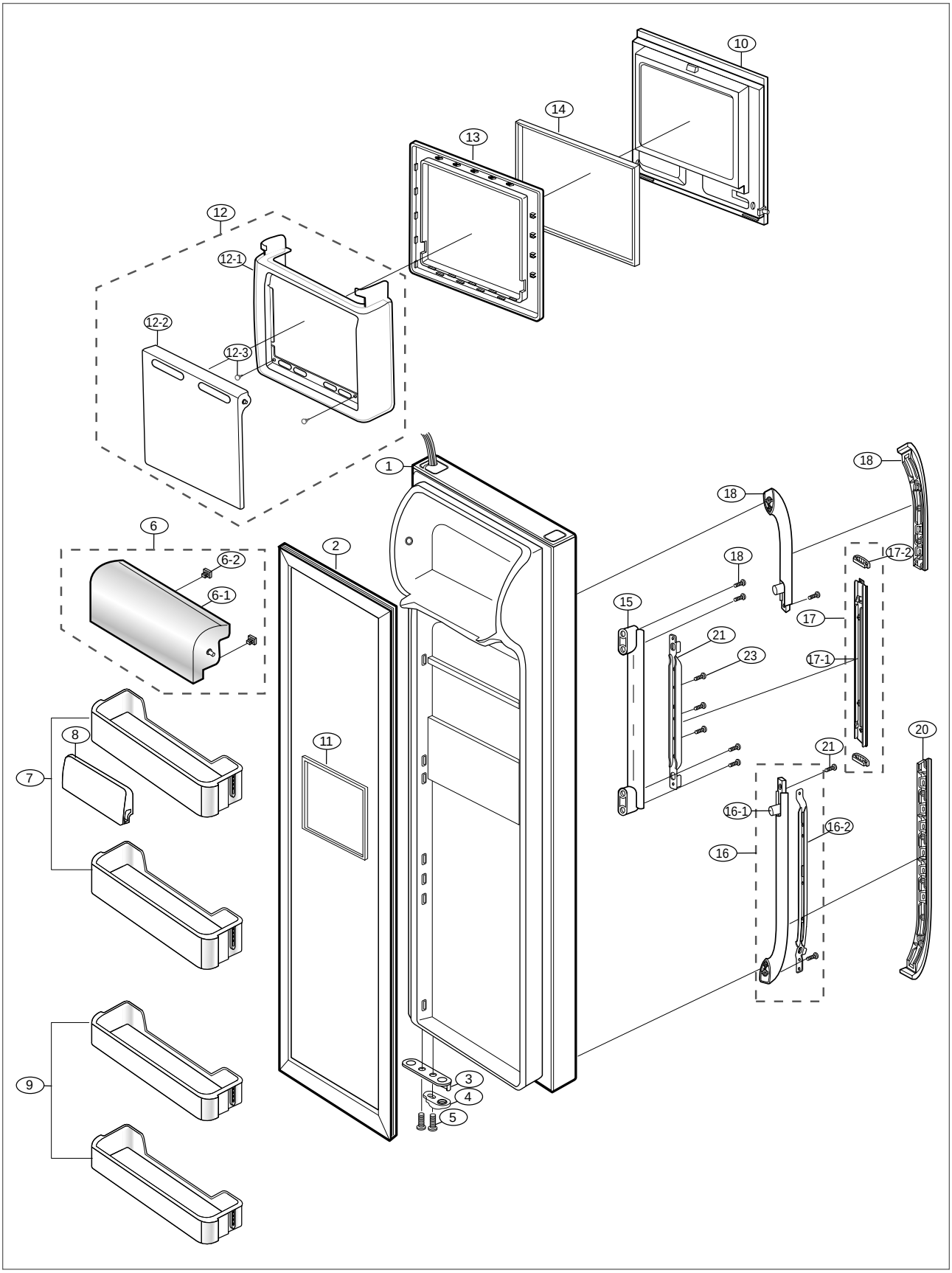
12-8) Refrigerator Room Door Exploded View



■ Part List of Refrigerator Room Door Exploded View

NO	CODE-NO	PART NAME	Spec	Quantity	Remark
1	-	ASSY DOOR FOAM REF	-	1	
2	DA63-30232K	GASKET DOOR-REF ASSY	SF-PVC	1	
3	DA61-00776A	STOPPER DOOR	SHP1 , T3.0	1	
4	DA66-90112C	CAM HINGE-RISER,LOW	NY-66	1	
5	6002-000468	SCREW-TAPPING	PH,+,2S,M5.0,L18,ZPC(YEL)	4	
6	DA97-00904A	ASSY COVER-GUARD		1	
6-1	DA63-00199B	COVER-GUARD	GPPS	1	
6-2	DA73-00216A	RUBBER-COVER GUARD	SILICONE	2	
7	DA63-00635A	GUARD BOTTLE-REF,UPP	HIPP	2	
8	DA71-00090A	GUIDE-BOTTLE REF	PP	1	
9	DA63-00590A	GUARD REF-LOW	HIPP	2	
10	6002-000470	SCREW-TAPPING	TH,+,1,M4,L10	3	
11	DA64-00111B	HANDLE-LOW-ASSY	SNOW-WHITE	1	
11-1	DA64-00095B	HANDLE BASE-LOW	HIPP , SNOW-WHITE	1	
11-2	DA71-00078A	REINF-HANDLE LOW	SBHG1 , T1.4	1	
12	DA64-00209A	HANDLE TRIM-ASSY,MID	ABS , SNOW-WHITE	1	
12-1	DA64-00098B	HANDLE TRIM-MID	ABS , SNOW-WHITE	1	
12-2	DA64-00196A	TRIM-HANDLE CONNECT,MID	SILVER COLOR	2	
13	DA64-00097B	HANDLE BASE-UPP	HIPP , SNOW-WHITE	1	
14	DA64-00100E	HANDLE-TRIM UPP	ABS , SNOW-WHITE	1	
15	DA64-00099B	HANDLE TRIM-LOW	ABS , SNOW-WHITE	1	
16	DA71-00077A	REINF-HANDLE-MID	SBHG1 , T1.4	1	
17	6002-000213	SCREW-TAPPING	TH,+,1,M4,L12,ZPC(YEL)	3	
18	6002-000468	SCREW-TAPPING	PH,+,2S,M5.0,L18,ZPC(YEL)	4	
19	DA64-00096B	HANDLE BASE-MID	HIPP , SNOW-WHITE	1	

12-9) Refrigerator Room Door Exploded View (RS21H, RS21F, RS21K, RS23H, RS23F, RS23K)

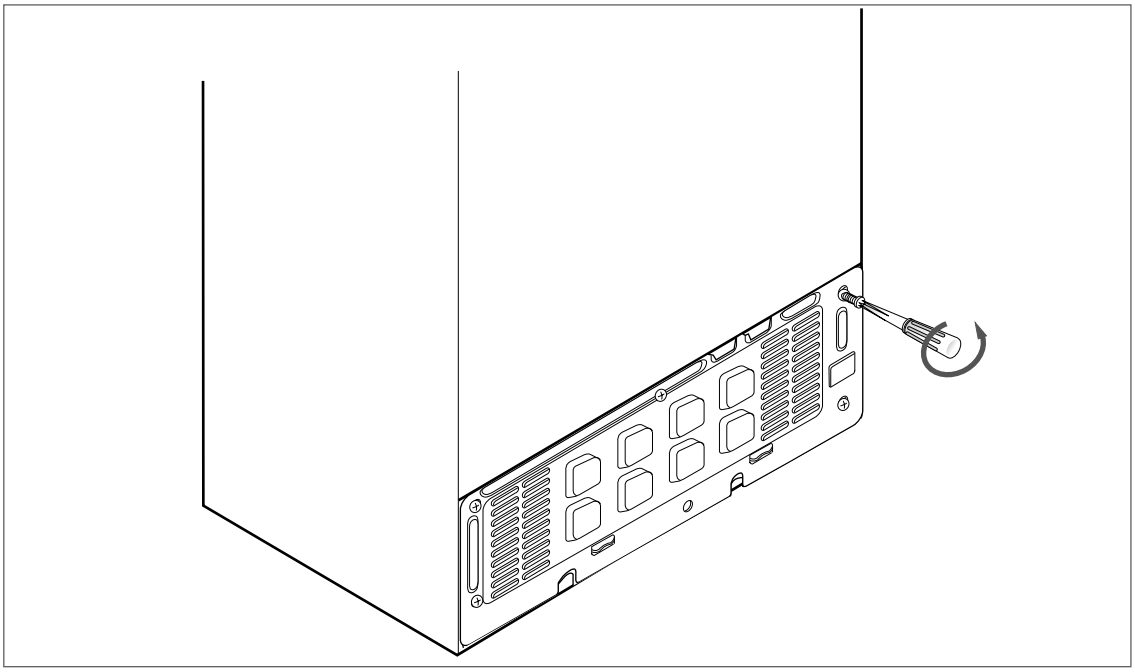


■ **Part List of Refrigerator Room Door Exploded View**

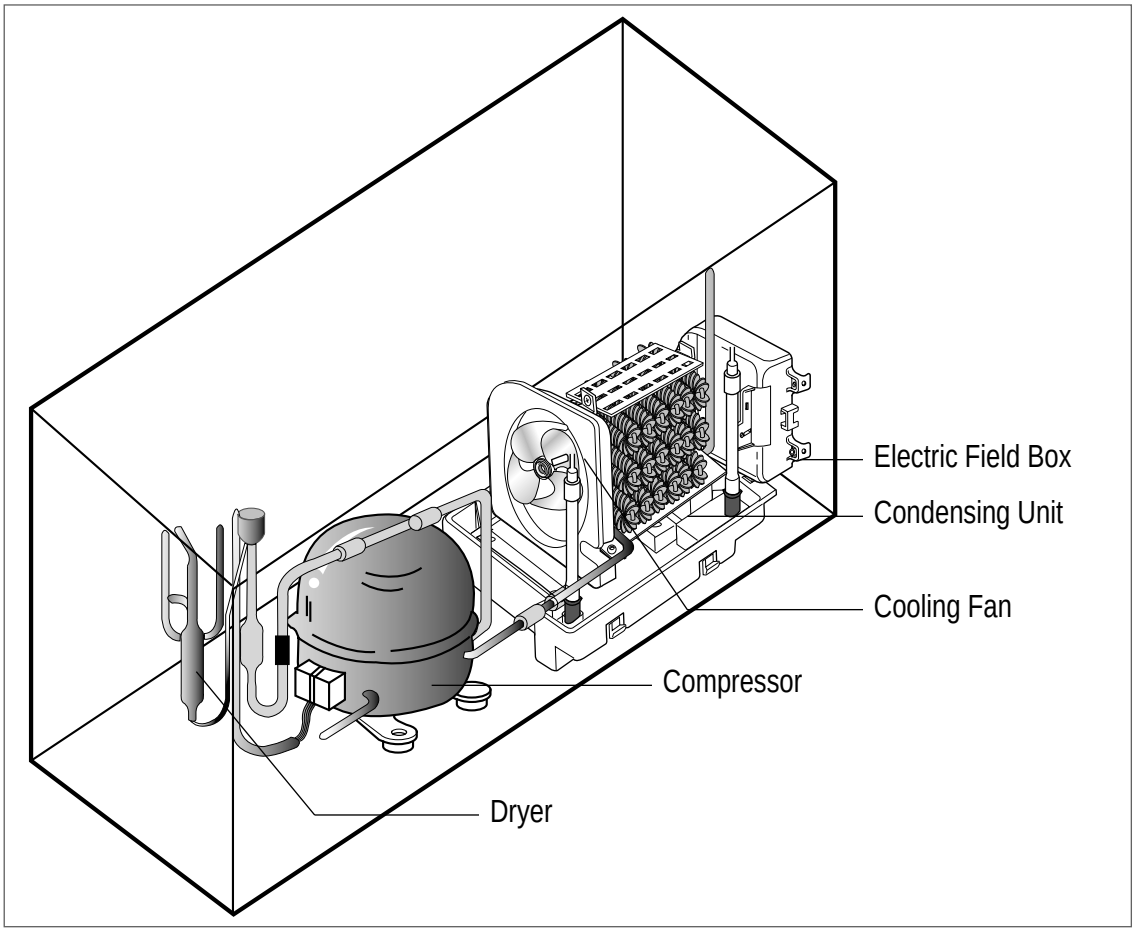
NO	CODE-NO	PART NAME	Spec	Quantity	Remark
1	-	ASSY DOOR FOAM REF	-	1	
2	DA63-30232K	GASKET DOOR-REF ASSY	SF-PVC	1	
3	DA61-00776A	STOPPER DOOR	SHP1 , T3.0	1	
4	DA66-90112C	CAM HINGE-RISER,LOW	NY-66	1	
5	6002-000468	SCREW-TAPPING	PH,+,2S,M5.0,L18,ZPC(YEL)	4	
6	DA97-00904A	ASSY COVER-GUARD		1	
6-1	DA63-00199B	COVER-GUARD	GPPS	1	
6-2	DA73-00216A	RUBBER-COVER GUARD	SILICONE	2	
7	DA63-00635A	GUARD BOTTLE-REF,UPP	HIPP	2	
8	DA71-00090A	GUIDE-BOTTLE REF	PP	1	
9	DA63-00590A	GUARD REF-LOW	HIPP , SNOW-WHITE	2	
10	DA97-01347A	ASSY HOME BAR	SNOW-WHITE	1	
11	DA63-00224A	GASKET-HOME BAR IN	SF-PVC	1	
12	DA63-00877A	COVER DOOR-RECESS,ASSY	GPPS	1	
12-1	DA63-00222A	COVER-DOOR RECESS-OUT	GPPS	1	
12-2	DA63-00223A	COVER-DOOR RECESS-IN	GPPS	1	
12-3	DA63-40167A	GROMMET-COVER CHIL	T3.0 , SILICON	2	
13	DA63-01607A	COVER-BRACKET FRAME	SNOW-WHITE	1	
14	DA63-00225A	GASKET-HOME BAR-OUT	SF-PVC	1	
15	DA64-00096B	HANDLE BASE-MID	HIPP , SNOW-WHITE	1	
16	DA64-00111B	HANDLE-LOW-ASSY	ABS , SNOW-WHITE	1	
16-1	DA64-00095B	HANDLE BASE-LOW	HIPP , SNOW-WHITE	1	
16-2	DA71-00078A	REINF-HANDLE LOW	SBHG1 , T1.4	1	
17	DA64-00209A	HANDLE TRIM-ASSY,MID	ABS , SNOW-WHITE	1	
17-1	DA64-00098B	HANDLE TRIM-MID	ABS , SNOW-WHITE	1	
17-2	DA64-00196A	TRIM-HANDLE CONNECT,MID	SILVER COLOR	2	
18	DA64-00097B	HANDLE BASE-UPP	HIPP , SNOW-WHITE	1	
19	DA64-00100E	HANDLE-TRIM UPP	ABS , SNOW-WHITE	1	
20	DA64-00099B	HANDLE TRIM-LOW	ABS , SNOW-WHITE	1	
21	DA71-00077A	REINF-HANDLE-MID	SBHG1 , T1.4	1	
22	6002-000213	SCREW-TAPPING	TH,+,1,M4,L12,ZPC(YEL)	3	
23	6002-000468	SCREW-TAPPING	PH,+,2S,M5.0,L18,ZPC(YEL)	4	
24	6002-000470	SCREW-TAPPING	TH,+,1,M4,L10,ZPC,SCRCH18A	3	

13. Machine Room Assembly Specification

13-1) Please remove fixed screw of cover of machine room of Refrigerator rear low part.

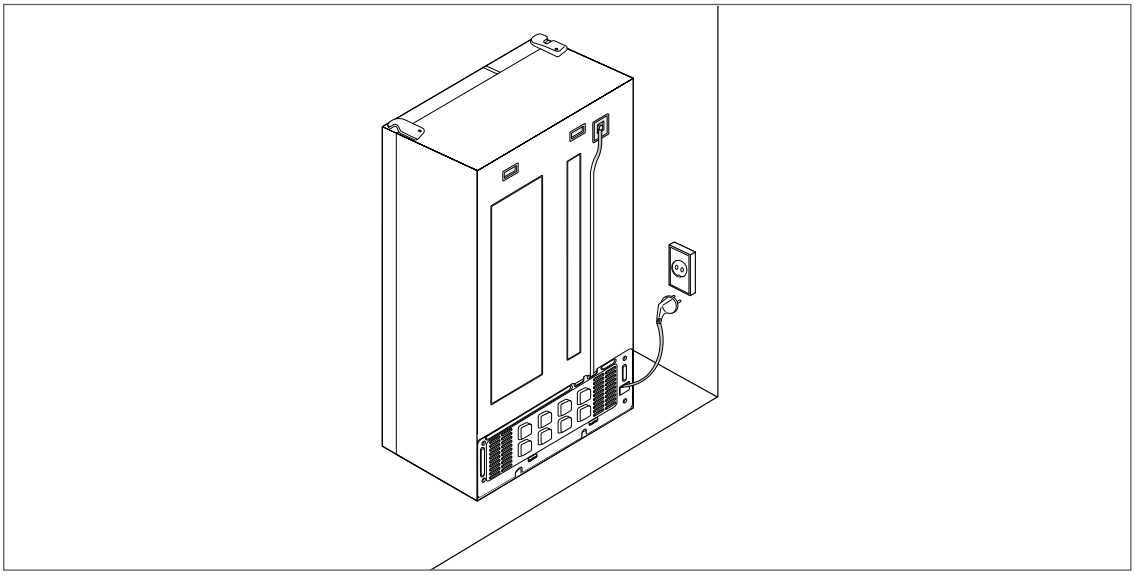


13-2) Machine Room Assembly Specification

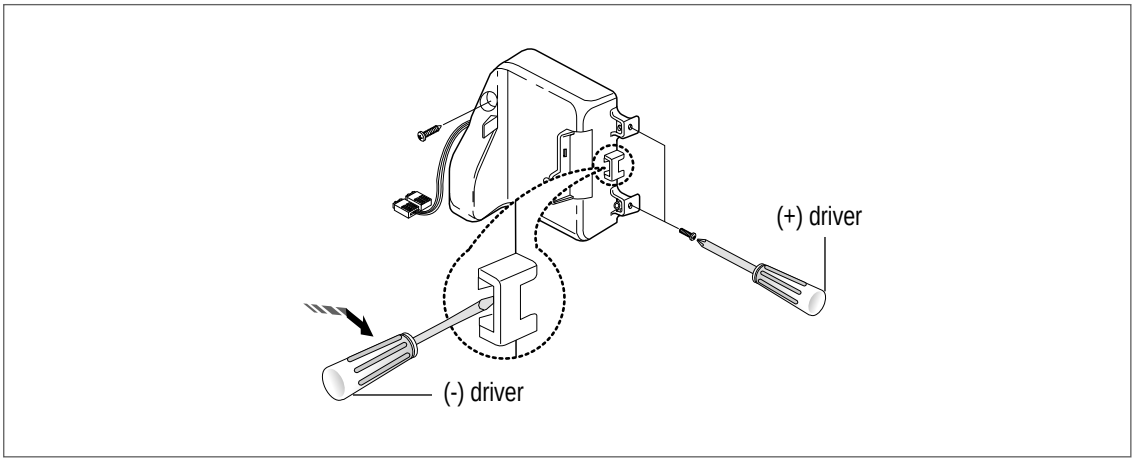


14. Disassembly & Assembly Method of Internal Part of Electric Field Box

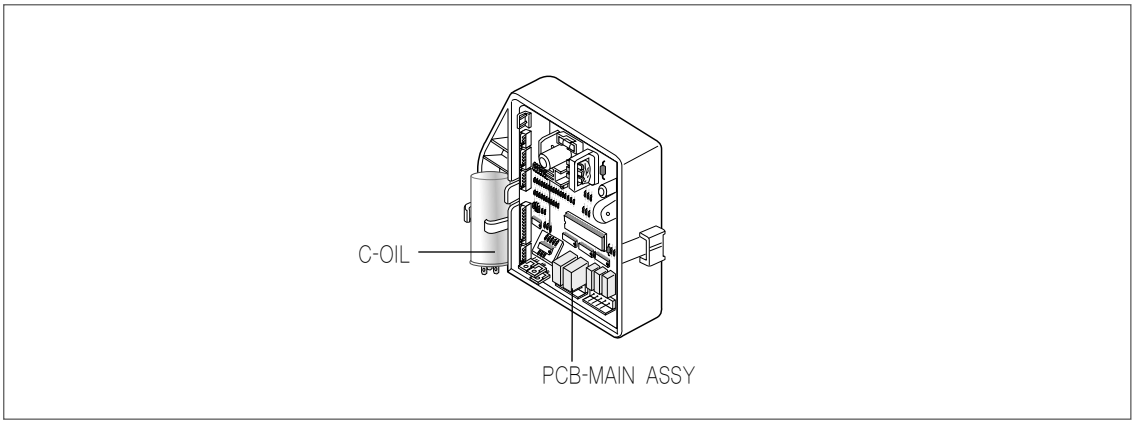
14-1) Please cut-off the power supply of refrigerator.



14-2) Please deviate cover of electric field box using driver.



14-3) Assembly Specification of Electric Field Box



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